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UKRAINIAN GOSPLAN OFFICIAL DISCUSSES REPUBLIC'S ECONOMY

Kiev KOMMUNIST UKRAINY in Russian No 10, Oct 79 pp 62-71

[Article by P. G. Sharenko, division chief at Gosplan Ukrainian SSR: "A Further Improvement of the Managerial Mechanism"]

[Excerpts] Today the solution of large economic problems demands a deep knowledge of the prospects for the development of our economy on the basis of our basic directions of scientific and technological progress. This is why the question of a further improvement of long-term planning and of the development of a single interconnected system of long-term, five-year, and annual plans is central in the decree. This system has to include within itself an overall program for scientific and technological progress for 20 years (by five-year plans), the basic directions of the economic and social development of the country for 10 years, and five-year and annual plans. The special-purpose programming method of planning special-purpose complexes of scientific and technical, economic, and social programs and also programs for the development of individual regions and territorial production complexes becomes an important element. And if in the past special-purpose programs were frequently worked out outside of the framework of the process of making up economic plans, they now becomes a stable operating planning instrument.

There is a substantial increase in the role of the five-year plan -- the chief form of planning the economic and social development of the country and the basis for organizing the economic activities of enterprises (associations). Guiding themselves by the control figures of the central planning agencies and of ministries and departments and taking account of preliminary work with consumers and suppliers to define a products list (assortment) of output, and on the basis of a system of scientifically substantiated technical and economic norms and normatives, associations, enterprises, and organizations work out draft plans for economic and social development (with the distribution of assignments by years). In order to increase the balanced nature of plans for each year, the development of a balance of material, labor, and financial resources and also of production capacities is envisaged.

New demands are also being made upon the interconnection of the five-year and annual plans. The latter will be made up on the basis of the assignments and economic normatives of the five-year plan for the given year with the necessary concretization. With this there will be an increase in the role of labor collectives and their influence on the formation of both the production and the social sections of the plans. Making use of the control figures of the five-year plan, the collectives of enterprises (associations), on the basis of searching out reserves, adopt counter-plans which, after their coordination with the availability of the appropriate labor, material, and financial resources, are included in the annual plan. In this way, the counter-plans are becoming an inseparable part of the general state system of planning, and their discussion, refinement, and adoption in the lower-level collectives is one of the forms of participation by the working masses in the management of social production.

The point concerning the maintenance of stability in the five-year plans, in wholesale prices in industry and estimated prices of construction, in the rates for freight hauls, and also in the corresponding economic normatives in all branches is of enormous importance for the further development of the initiative of labor collectives in increasing production efficiency and improving the quality of work.

Increased importance is being given to the normative method of planning which provides for an expansion of the managerial independence and economic responsibility of all of the elements of the national economic complex, develops initiative, and promotes a further development of socialist competition. It is noted in the decree that the five-year plans will contain stable economic norms differentiated by years, including norms for the wage fund per ruble of output, for the economic stimulation funds, for the distribution of profits, and a number of others.

An especially important aspect is the fact that the evaluation of the fulfillment of the five-year plan will be performed in a running total from the beginning of the five-year plan, and of the annual plan in a running total from the beginning of the year. This will make it possible to avoid violations of planning discipline and to increase the responsibility of the leaders of ministries and departments and enterprises and associations for the quality and effectiveness of planning decisions.

In order to strengthen the social thrust of plans it is planned to work out within them (at all levels of the economy) overall sections for a complex of measures -- to improve working conditions, raise the educational and skill levels of workers, improve their cultural and domestic conditions, improve medical care, and so forth. Social criteria are acquiring increasing importance in substantiating the most effective ways of achieving high economic results, developing measures to accelerate scientific and technological progress, and accomplishing other tasks of the planned and dynamic development of our socialist economy.

Great importance is being attributed to an objective evaluation of the work results of collectives, to a further improvement of the system of planning indicators, and to strengthening their mobilizing role in increasing production efficiency and improving output quality. In most branches an indicator of normed net output (in individual ones, above all the extracting branches, of commodity output in comparable prices) is being introduced as the basic one in planning production and determining the level of labor productivity and of the planned wage fund.

The new procedure of planning and evaluating production work has been employed experimentally at certain enterprises since 1973. For example, the USSR Ministry of Heavy Machine Building and the USSR Ministry of Energy Machine Building which are located on the territory of the republic, have been entirely transferred to planning on the basis of normed net output. As an analysis of the work of 46 enterprises from various branches which are operating under the new conditions has shown they have achieved a substantial increase in the indicators for output sales and profits and for other economic parameters of economic work. In three years of the Tenth Five-Year Plan alone 86 percent of the increase in normed net output here was obtained as a result of a rise in labor productivity. And at the enterprises of the Ministry of the Medical Industry and the USSR Ministry of Heavy Machine Building this increase came to 85 and 94 percent, respectively.

The role of the indicators which reflect the work of collectives to raise the technical and economic level and quality of output is becoming more important. A large program has been planned to improve the organization of production, employ new technological processes, review the standards for machines and equipment in order to improve their qualitative characteristics, increase the rate of products, reduce the expenditure of fuel and energy in the process of equipment operation, and unify parts, units, and instruments, and also to standardize and specialize the production of products in general machine building use, and others.

The decree provides for performing an evaluation of the technical level of production purpose equipment before the end of the current five-year plan and for developing measures to increase the technical and economic indicators of products and remove obsolete output from production. The attention of the USSR State Committee for Standards is directed toward ensuring control over the development of overall programs for output standardization, over a systematic review of obsolete standards, and others. The role of economic levers and stimuli in expanding the production of high quality products is being increased. Provision is made for the introduction of incentive mark-ups to wholesale prices for new output, if its parameters correspond to the best domestic and foreign models.

Ensuring the balanced nature of plans is one of the most important problems in improving the economic mechanism. The coordination of production plans and material resources is achieved by means of an organic interconnection in the system of output balances which are worked out in the long-term, five-year, and annual plans; and by concluding a system of economic contracts between producer and consumer enterprises. In 1980 the transfer of production associations and enterprises to direct long-term economic relations is supposed to be basically completed.

The party and state devote constant attention to achieving the fullest satisfaction of the population's needs for consumer goods. In order to increase the mutual responsibility of the Ministry of Trade and of the industrial ministries, associations, and enterprises for the punctual renewal of assortment and for an improvement of the finishing work on and appearance of products, the conclusion of five-year agreements which are concretized in annual contracts on volume, assortment, and delivery conditions with regard to the population's demand is being introduced into practice.

An important influence on increasing production efficiency will be exercised by the indicators which are being introduced into planning practice for normed wages per ruble of output, the ceilings on the number of workers and employees, assignments to decrease the use of manual labor, norms for the formation of the production development, material incentives, and social and cultural measures and housing construction funds, assignments to decrease costs and payments to and appropriations from the budget, and also assignments on the economic effect from the performance of scientific and technical measures. Giving associations and enterprises annual assignments for the introduction of advanced experience in the field of progressive technology, scientific labor organization, and production and management is an important aspect.

The planning of the production of output in physical terms, including for export, and of consumer goods in group assortment is being substantially expanded.

Measures have been planned which are aimed at a further improvement of quality and substantiation of the drawing up of plans and at ensuring stability in their fulfillment. It is noted that leaders who are guilty of correcting plans in the direction of understating them will bear administrative and material responsibility in the established manner.

One of the tasks which was put forward by the 25th CPSU Congress is an increase in the effectiveness of the use of labor resources on the basis of an acceleration of scientific and technological progress and further growth in labor productivity. Today around 94 percent of the able-bodied population is employed in the economy of the republic. This year alone it is planned to economize the labor of almost 900,000 people and to obtain by means of increasing its productivity 96 percent of the increase in national income, 76 percent of the increase in industrial production, and the entire increase in agricultural output and construction and installation work. And since in the future the demographic situation which is connected with the distant consequences of the war will become even more difficult, the scarcity of labor power is becoming especially acute. This is why there is such great importance in the system of measures provided by the decree for the development of labor resources balances both for the country as a whole and for republics and individual regions, a system which is aimed at strengthening planning in the redistribution of labor power and at reducing labor turnover.

In order to ensure a rational combination of the branch and territorial principles of planning, measures have been mapped out to expand the participation by union republics and local Soviets of People's Deputies in preparing optimal solutions at the stage of the formation of the plans for the economy of the republic as a whole and for enterprises of union subordination. The composition and approval of the summary five-year and annual plans for the production of consumer goods and for municipal housing and domestic and cultural construction has been made the responsibility of local government agencies. The role of the union republics in forming capital construction plans and coordinating them with the capacities of construction organizations is also being strengthened.

Measures connected with the composition, jointly with the union republics, of programs for the solution of major regional problems and for the formation and development of territorial production complexes and also of summary capital construction plans are also directed toward improving territorial planning.

When schemes for the development and siting of the branches for the economy are worked out by USSR ministries and departments with the participation of the councils of ministers of the union republics account is taken of the conclusions and recommendations of the oblast Soviets of People's Deputies. This promotes a fuller calculation of the labor, natural, energy, and other resources which exist on a territory.

The development of the plan for the economic and social development of the country is a very labor-consuming process. In recent years the amount of planning work has greatly increased as a result of the preparation of materials for the long-term, the composition of five-year plans with an assignment breakdown by years, and the inclusion in them of new sections, including on environmental protection, the introduction of scientific and technical achievements, and overall programs for the development of individual territories. It is sufficient to note that the draft plan for the economic and social development of the Ukraine SSR for the year 1980 consists of 147 volumes which include 12,000 pages of text, diagrams, and tables. In addition, in developing a plan it is necessary to compare several of its variants in order to find the optimal one. This is why the automation of planning calculations has become such an acute issue on the agenda.

In 1977 the first stage of the automated planning calculations system of Gosplan USSR was put into operation in our country. One of its component parts is the automated planning calculations system of Gosplan Ukrainian SSR which includes the solution of 658 problems, including 450 for annual plans, around 160 for the five-year plans, and more than 50 for the long-term plan.

At the present time this system is solving around 200 optimization problems for the branch divisions of Gosplan Ukrainian SSR which make it possible to perform a deep analysis of the results of the work of enterprises and branches, to discover existing reserves, and to make optimal decisions on the development of branches. Thus, preliminary optimization calculations for the 1980 draft plan for light industry showed the possibility of the above-planned production (amounting to 2 to 3 percent) of unbleached, flax, and silk fabric without the enlistment of additional capital investments from the Ministry of Light Industry Ukrainian SSR. However, due to the imperfect nature of programming, such calculations have not yet found a universal application in planning work. This is why during the 11th Five-Year Plan it is planned to fully complete the introduction of the automated planning calculation system of Gosplan USSR with the wide use of physical and cost balances of production and the distribution of output, production capacities, and labor and financial resources, and of a system of planning norms.

In the decisions which have been adopted a number of measures are planned to improve the managerial mechanism in construction and increase the effectiveness of capital investments. And this is right, since there still occur shortcomings in this sphere of social production which have been pointed out at the 25th Party Congress and at subsequent Plenums of the CC CPSU.

The basic factor in improving the state of affairs in construction is a shift to stable five-year capital construction plans (with an annual assignment distribution) and the strengthening of their balance with material, labor, and financial resources and the capacities of construction and installation organizations.

The approval of a ceiling on state capital investments and construction and installation work which is stable for the entire five-year plan is a positive new aspect. The maximum use of existing production capacities is also an immutable law of economic management.

It is noted that new capacities will be created only if a planned increase in output cannot be achieved at existing enterprises through reconstructing and reequipping them.

Since it invests enormous capital investments in construction, society is interested in a most rapid return on them. This is why a system of planning indicators oriented toward final results, in particular the commissioning of production capacities and objects, has been defined for construction ministries and construction and installation organizations. Beginning with the 11th Five-Year Plan, in addition to others, such an evaluative indicator as commodity construction output is being introduced; that is, the cost of the construction and installation work which has been performed at start-up complexes and objects which have been delivered to a client, and of output and services which have been prepared for production and performance. In our republic where since 1978 this indicator has been experimentally planned for the Ministry of Heavy Construction Ukrainian SSR and the Ministry of Installation and Heavy Special Construction Ukrainian SSR, its effectiveness gives rise to no doubts.

In the future commodity construction output will be put at the basis of the cost accounting relations between a client and a contracting organization. With the shift to the new procedure of settlements, the issuance by clients of advances to contracting organizations for expenditures connected with performing incompleted construction and installation work comes to an end. The expenditures of contracting organizations for the construction of objects, right up to their delivery for operations, will be covered through bank credit. When planned construction schedules are exceeded the appropriate economic sanctions are provided for the use of loans.

It has also been found to be advisable to carry out a gradual shift to the construction of enterprises (objects) on the basis of credit provided by Stroybank USSR to contracting construction and installation organizations in the amount of the full cost of the construction of an enterprise (object) as defined by the estimate adopted by the general contractor, with the delivery to the client of "key-ready" enterprises (objects).

In order to ensure the continuity of the planning of capital construction and increased responsibility by clients and contractors for the punctual commissioning of production capacities and objects, the development and approval of a list of construction being newly begun has been provided for within the five-year plans. On the basis of these lists, and also ceilings on capital investments and construction and installation work and the corresponding plans, estimates, and construction length norms, clear plan-schedules for the entire period and title lists of objects with an annual assignment breakdown will be developed and approved.

It has been established that beginning with 1981 the capital construction plans will include only those construction projects for which on 1 July of the year preceding the planning year there are planning estimates and working blueprints for the annual amount of work which have been approved in the established manner. (At the present time these documents are made up as of conditions on 1 September.) The change in these dates will make it possible for construction organizations to prepare for the founding work on objects in a more valid manner.

A change in the issuance periods for delivery orders -- instead of an issuance every year, one issuance for the entire construction period -- which is provided for by the decree will have an important influence on equipping construction projects with equipment and metal structures.

Corrective branch coefficients for the operating estimate norms for construction and installation work and overhead expenditures norms are being introduced: they will be employed in determining the expenditures for work to reconstruct and reequip operating enterprises. Material incentives for the leading workers of construction and installations organizations in relation to the amount of reequipping and reconstruction work are being increased.

Other measures to improve the organization of construction are also provided for. They include the financing of production purpose construction projects with state capital investments on the basis of title lists for the entire construction period, within the amounts approved in the estimate; the shifting of construction projects to overall materials supplies through the territorial agencies of material and technical supply on the basis of orders from construction and installation organizations in accordance with the plans and estimates; and an improvement of the management of capital construction, its shift to a two- and three-element system of management.

A large amount of work on the creation of associations has been done in the republic's industry. In 1979 there were 814 production associations here. It is necessary to continue to improve the forms of organization of the management of social production and to complete within the next two to three years the formation of production associations as the basic cost accounting element of industry; to consistently carry out measures for production specialization and cooperation and for the centralization of auxiliary and subsidiary services.

The new decree of the CC CPSU and USSR Council of Ministers maps out concrete measures to further develop cost accounting relations and economic levers and stimuli. It is pointed out, in particular, that the assignments of the five-year plan and of the long-term economic normatives have to be placed at the basis of the development of the cost accounting of production associations, enterprises, and construction and installation organizations. The amount of resources which are being left at the disposal of enterprises has been made directly dependent upon improving the final results of their production work. And the amounts of the economic stimulation funds depend, first of all, upon the degree of the fulfillment of the plan for the delivery of production and technical output and of consumer goods in a products list (assortment) and schedule which correspond to contracts (orders), and others. In addition, the formation of the economic stimulation funds will be carried out on the basis of stable norms which are approved in differentiated amounts by the years of the five-year plan.

Their dissemination in the all-union and republic industrial associations and also in industrial and construction ministries and in the system of agencies of material and technical supply will be of great importance in the further development of cost accounting relations. In the republic our basic attention has to be devoted to the introduction of cost accounting methods of work in all of the ministries and, first of all, in the ministries of ferrous, timber, and coal industry and in the Main Administration for the Petroleum and Chemical Industry Ukrainian SSR and the Ukrainian Main Administration for Fishing of the Ukrainian SSR which are already organizing their work on the basis of the conditions established by the general regulation on the all-union and republic industrial association.

Society is interested in the production of high quality output which corresponds to the best domestic and world models. In this connection, the introduction of normatives for the formation of the economic stimulation funds on the basis of output quality level and of incentive mark-ups to the wholesale price for new highly effective production purpose output, the strengthening of the responsibility of associations and enterprises for the renewal of output, and a number of other measures which are provided for by the decree are of exceptional importance and to a large extent promote the attainment of the chief goal of socialist social production -- the fuller satisfaction of the materials and spiritual needs of people. A strengthening of the interest of collectives in adopting and fulfilling counter-plans which exceed the annual assignments provided for by the five-year plan is of great importance in further improving the economic mechanism. It is noted that allotments to the economic stimulation funds will be made at increased norms for initiatives in seeking internal production reserves. At the same time, the collective will be made more responsible for fulfilling the assignments of the five-year plan and the fund-forming indicators which for most branches are an increase in labor productivity and in the production of highest quality category output; the fulfillment of the plan for output deliveries to consumers in accordance with concluded contracts (orders); and the fulfillment of the profits plan (in individual branches -- a decrease in costs).

A clear definition has been given to the principles of the formation of the social and cultural measures and housing construction fund which will be formed in the amount of 30 to 50 percent of the material incentives fund. In addition, the administration and the trade union committees of enterprises and associations have been given the right to independently determine the direction of the uses of the stimulation funds. And, when necessary, can direct a part of the monies of the material incentives fund for housing construction and social and cultural measures.

The production development fund is formed on the basis of norms for profit allotments and depreciation allotments which are designated for the complete restoration of fixed capital. With monies from this fund associations (enterprises) perform measures to mechanize and automate operations, replace and modernize equipment, and improve labor and production organization and raise their technical level.

Especial importance is now being attributed to increasing the economic responsibility of ministries and industrial and production associations (enterprises) for the results of their financial work and for the effective use of resources by means of giving industrial ministries (on the basis of the assignments which have been approved in the five-year plan) a stable profit allotments norm which is differentiated by years. The basic function of this part of profits is to finance capital investments, pay off bank credit and the interest on it, ensure the growth of circulating capital, form the single scientific development fund and the economic stimulation fund, and perform other planned expenditures for the development of the branch. This approach to the distribution of profits does not mean that the amount of capital investments for the development of a branch is limited solely to a ministry's own resources. When they are insufficient to finance production purpose objects in the five-year plans it is planned to use the resources of bank credit and the state budget.

The decree defines economic measures to increase the responsibility of ministries to the state budget. In particular, it is planned in the five-year plans with a distribution by years and in keeping with the norms to approve the absolute amount of profit allotments to the state budget, and, when necessary, appropriations from the budget. The normative method of profits distribution is being applied not only to ministries, but also, on the basis of their production characteristics and profitability levels, to industrial and production associations and also to large enterprises within the limits of the amount of profits which remain at the disposal of a ministry.

A further acceleration of scientific and technological progress, an expansion of the production of new high quality output, and a shortening of the "science-production" cycle is being promoted by the shift of scientific research, planning and design, and technological organizations, experimental organizations, and the scientific production and production associations (enterprises) of industrial ministries to a cost accounting system of organizing the work connected with the creation, mastery, and introduction of new equipment on the basis of schedule orders (contracts) in accordance with the experience of the USSR Ministry of the Electrical Engineering Industry. And, as a supplement to this, the creation of a single scientific and technical development fund which is designed for financing scientific research work on the mastery of new equipment.

Of great importance is the point in accordance with which the cost of work of an industrial character which is connected with the mastery and introduction of new equipment and carried out on the basis of monies from the single scientific and technical development fund is considered in the total amount of output with normed profits added to the groups of products.

It is also planned to gradually transfer scientific research, planning and designing, and technological organizations to a system of settlements for completely finished and client-accepted work (instead of the stage-by-stage payment for work), and to form the corresponding economic stimulation funds on this basis.

The decree which has been adopted provides measures for increasing the interest of labor collectives in accelerating the growth of labor productivity and decreasing labor turnover. In this connection, long-term wage norms per ruble of output are being introduced which should strengthen the dependence of the wages of every worker and of the labor collective as a whole upon the effectiveness of their work and the final work results of an enterprise (association).

Production associations and enterprises have received the right to pay, on the basis of economies in the wage fund (obtained compared to the established norm or to the planned wage fund), mark-ups to the wage rates of workers for occupational doubling up and for the performance of an established amount of work with a smaller number of employees. Initiatives to introduce technically substantiated labor norms and to review them punctually are being stimulated. The point which provides for incentives for engineering and technical workers and employees for improving their professional skills and qualifications is an important one. Attention is called to the necessity for improving the stimulation of the work of such a category of workers as designers and production engineers.

The point in accordance with which an economy of the wage fund obtained by a collective by increasing labor productivity is assigned for the formation of the material incentives fund is of enormous importance for a further development of the creative initiative of workers in increasing production efficiency.

At the current stage of scientific and technological progress collective forms of organizing and paying for labor are becoming increasingly wide-spread. The republic's construction workers, for example, who are working according to the team contracting method (last year 13,500 teams, or 38 percent of the total number, worked according to this method) shorten construction periods by an average of 17 to 20 percent, reduce estimated costs by 3 to 4 percent, and deliver objects with grades of "good" and "excellent." It is pointed out in the decree that during the 11th Five-Year Plan this progressive form of organizing and paying for labor will become the basic one in industry and construction.

The point in the decree in accordance with which the collectives (councils) of production teams are given the right to determine the amounts of bonuses and earnings which are paid for the work results of an entire team collective on the basis of the real contribution of each of its members to the overall work results is of enormous importance for the further development of the creative activeness of workers and their wide enlistment in production management. This also applies to their right to determine mark-ups for professional expertise and occupational doubling up, to make suggestions connected with changing the qualification category of a worker, to determine the victors in a socialist competition and the amounts of their rewards, and to put forward candidates for material and moral incentives on the basis of the results of intraplant socialist competition.

At the present time our planning and managerial agencies are working out plans for 1980 and are preparing drafts for the 11th Five-Year Plan and for the period until 1990. The decree of the CC CPSU and USSR Council of Ministers whose practical realization will ensure substantial further progress for our socialist economy and a further improvement of the well-being of the workers of our country will serve as a mighty lever for the effective accomplishment of these tasks.

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PROBLEMS OF COORDINATING INTERSECTORIAL BALANCE INDICATORS

Moscow VESTNIK STATISTIKI in Russian No 11, Nov 79 pp 35-42

/Article by L. Gol'denberg: "Individual Problems of Coordinating Intersectorial Accounting Balances"/

/Text/ The intersectorial accounting balance (MOB), while a component part of the balance of the national economy that reflects the planned nature of socialist production, is characterized by the balanced amounts of production and product consumption in the Soviet national economy (and the individual union republics). This refers to the total amount of gross public product and the totals of product from individual sectors of the national economy and industry which are detailed in the MOB.

At the same time at the stage of compiling the preliminary version of the MOB a lack of balance in the indicators of this balance is revealed. The lack of balance is manifest in the disparity of the amounts of resources of the product (total by column) and the distribution of product (total by line) for the individual sectors of the MOB. In some sectors the amount of resources is greater than the amount of product distribution; in other sectors it is the other way around. On the whole for all sectors of industry and the national economy the sum of the disparities is equal to zero. This is as it should be if one takes into consideration that the total, so-called "bordering totals" (amounts of gross product, material expenditures, net product, consumption fund, savings fund and others) are taken directly from the balance of the national economy.

This article outlines individual problems of coordinating MOB indicators.

The lack of balance of the indicators of the MOB as the result of estimates somehow accumulates errors and individual difficulties in obtaining information which arise at all stages of compiling the MOB: when filling out blank forms of one-time accounting at the enterprises, construction sites, in institutions and organizations that were examined; when determining the totals of examination, performing several dozen complicated economic estimates, and drawing up the preliminary version of the MOB. When estimating individual balance indicators there is insufficient information;

and the estimating and operational data that are used for this are not always accurate.

One of the common reasons for the lack of balance in the indicators of the MOB are the errors which are committed in filling out the blank forms for one-time accounting directly at the examined enterprises, construction sites, in institutions and organizations; particularly at industrial enterprises. One must consider that the current bookkeeping at the enterprises is not adaptable for filling out blank forms for one-time accounting or for alloting amounts of product of a sectoral or non-sectoral profile and also the expenditures for its production. During the accounting year the examined enterprises compile special accumulative lists along side the current accounting; they use primary documents for the issue of materials and documents for writing off materials and others and they also calculate the product of a sectoral and non-sectoral profile.

In the instructions for filling out blank forms of one-time accounting and for drawing them up it indicates that in the blank of form No 1 for industrial enterprises it is necessary to show the sum of the production cost of a sectoral profile, which then should be combined with the balance of profits and losses; the obtained result must correspond to the amount of this product.

However, the total criteria for evaluating the accuracy of the data of examination do not prevent errors in estimating the expenditure of certain kinds of raw materials, materials, fuel and assembly articles. These kinds of errors can occur primarily in calculating production cost of sectoral and non-sectoral profile, in distributing auxilliary materials of basic shops and also materials issued to auxilliary shops, for shop and plant expenditures and expenditures for maintaining and operating equipment.

These errors, just as many others, can most expediently be corrected at the stage of conducting accumulative lists, for which a control visit by workers from the statistical administrations to the examined enterprises is called for; this amounts to a check of the correctness in compiling these lists. In addition, within the statistical administrations, where the examined enterprises and organizations send filled-out forms of one-time accounting and where the forms are processed, it is necessary to have data concerning expenditures for production in a detailed break-down of products (sectors) and elements if only for the largest enterprises - representatives of the sectors of industry for several years. It is important to ensure the continuity of the expenditure indicators of the most important products for production facilities and enterprises of the same type, particulary since the examination of expenditures for production is now being done on a systematic basis.

The balanced coordination of the MOB indicators is carried out within the limits of the "bordering totals", taken from the balance of public product, which must remain unchanged when balancing. This refers to the amounts of gross product, material expenditures and net product by sectors of the national economy, the non-production consumption fund, the savings fund and others. The totals in the column "Recovery of withdrawn fixed assets and capital repair" must match the totals in the line "Amortization and non-amortized cost".

In the MOB the amount of product resources (totals for the column) equals the amount of gross public product, from which the balance of export and import is deducted (in the MOB the export and import indicators are given in detail: import in the resource portion and export in the distributive portion); the amounts of repeated accounting of the commercial and transport price markup (the material services of transport, material-technical supply, commerce and public dining and procurements) are added, as are the balances of the interrelationships with the budget for agricultural raw materials, which are shown in the first quadrant of the MOB. The economic importance of the latter is that some kinds of agricultural raw materials (grain, wool, cotton-wool, cattle, poultry, milk and others) are sold to industrial enterprises according to estimated prices, which may significantly differ from the actual purchase prices (particulary for cattle and milk). The difference between the purchase and estimated prices is paid from budget funds through a special account for price regulation, if the purchase prices are higher than the estimated prices or deposited in the budget if the purchase prices are lower than the estimated prices.

In the MOB the balance of the interrelations with the state budget is shown in the third quadrant by an individual line. At the intersection of this line with the columns of the appropriate sectors of the light and food industry ("Meat and meat products", "Milk and milk products", "Products of the flour-grinding and groats industry" and others) the change in net income caused by paying the difference in prices for agricultural raw materials is shown.

In addition, in the MOB the indicators of the balances of the interrelations with the state budget for agricultural raw materials are reflected in the first quadrant, where the interrelationships of agriculture and the corresponding sectors of industry are shown. The difference in prices for agricultural raw materials must be added (with the appropriate mark) to the expenditures for production in those sectors of the light and food industry, where agricultural raw materials are figured in estimated prices. Only by reflecting the difference in prices for agricultural raw materials can the interrelationships of agriculture with industry be correctly shown and a balanced equality by sectors of the MOB be attained: "Plant-growing", "Animal husbandry", "Meat and meat products", "Milk and milk products", "Cotton articles", "Products of the flour-grinding and groats industry" and others.

The amount of material expenditures in the MOB is equal to their amount in the gross public product, to which are added the amount of repeated accounting of the commerce-transport markup and the balance of the interrelations with the budget, which is shown in the first quadrant of the MOB.

In the MOBs of the union republics the indicators are coordinated both with the indicators of the balance sheet of the national economy and in the balance sheet compiled for the Soviet Union on the whole. The indicators of the import of output from other union republics are reflected also in the resource section; the indicators of export of output to other union republics are given in the distribution section.

In what sequence should the balancing of the sectors be carried out? It has been proposed to perform the balancing of the sectors in a sequence opposite to the technological process, i.e. to begin with the sectors that produce an end product and which have a small number ties, and to conclude with the sectors that produce raw materials and materials. The coordination of the resource indicators and product distribution indicators, beginning with the extrading sectors, is, as a rule, only the preliminary version of balancing the MOB. Experience in compiling the MOB's over a period of years has shown that this system of balancing has no significance for speeding up this work. In any case it is not possible from the start to coordinate several thousand indicators of the MOB and several versions of the balance-sheet coordination. In our opinion, on the contrary, it is more expedient to commence the balancing with the sectors that are characterized by a large number of intersectorial ties. The possible connections of indicators for these sectors influence the overall balance of the other interconnected sectors.

It is known that when balancing any corrections of indicators for one sector (except for corrections along the main diagonal where expenditures of products of a given sector for the production of output of the same sector are shown) require changes of indicators for other sectors, which are represented in the checkerboard table of the MOB.

Balancing should be done within the limits of the individual groups of sectors, which are closely linked together in production technology and so forth. As an example, one can name the fuel and power complex, which incorporates deliveries of products of oil refining and the gas industry, coal, fuel shales and peat for producing electric power at thermal electric power plants, including the processing of crude oil at enterprises of the oil refining industry; the agro-industrial complex, including deliveries of agricultural raw materials for the production of output by the light and food industry, deliveries of the output of the food sectors to agriculture in the form of fodders (flour, bagasse, molasses, bran, etc.).

Balancing by sector includes a check of the reliability of the indicators of intersectorial ties of a given sector with others. The checking is performed in both columns and lines. The indicators of the expenditures of raw materials, materials, fuel, assembly parts for the production of output, amortization and underamortized cost, elements of net product, trade and transportation markup, imports (for union republics products brought in, including imports) are checked by columns. The reliability of the resources of each sector, the percentage of material expenditures in the amount of gross output are determined by columns.

Checked by lines are the indicators for the product distribution of a given sector (including product that is brought in) for production consumption by other sectors in the material production sphere, for the consumption fund and the savings fund, for off-setting losses (from unfinished construction, the death and destruction of mature and productive livestock and others), for off-setting of withdrawn fixed assets, capital repair, other expenditures and export (in the union republics the outgoing shipments and export).

The final goal of the balancing estimates is the complete equality of the indicators of resources and product distribution within the "bordering totals" of the balance of the national economy.

Of course it is impossible to make a recommendation on how to conduct the balancing in each individual case. However, attention must be directed at many factors which influence the overall balance of the indicators of the MOB and which are of a systematic nature.

For the sector "Electric power and thermal power", as a rule, there is a redistribution of product, i.e., distribution exceeds the resources of a given sector. One of the reasons for this lack of balance is the various methods of evaluation that are used at electric power stations when determining the amounts of gross and commodity output of a given sector. When determining the amount of gross output, uniform (average for the union republics) rates are used ; when determing commodity output effective wholesale prices of the enterprises, actually established prices are used (in prices of the actual sale without the turnover tax). In practice the amount of commodity product for a given sector is greater than the amount of gross output for the sector. The national product (including industrial output) is determined by the amount of gross output. This means that in the MOB for the sector "Electric power and Thermal power" the amount of resources is understated.

In addition, in many cases when filling out a blank Form No. 1 the examined industrial enterprises are violating a basic principle of recording the expenditures for production: the expenditures must be reflected without intraplant turnover, i.e., without materials (semi-finished goods and manufactured articles) of in-house production which are used by a given enterprise for industrial-production purposes (excluding the enterprises of several sectors of the light, food, coal and timber procuring industries). As a result when expending materials of the same designation, both acquired from the outside (purchased) and in-house manufacturing, individual enterprises do not exclude internal turnover. This position is characteristic not only for the sector "Electric power and thermal power". For example, the machine building enterprises with a mass production of tools, forgings, castings and stampings for their own use indicate the amounts of their consumption in one-time accounting blank forms, rather than in the form of individual elements of expenditures (metal, fuel, amortization and others), but along with the amount of a similar product that is supplied from elsewhere. To bring the amounts of resources and product distribution into allignment, that portion of the electric and thermal power, tools, forgings and stampings that are produced by the enterprises in the form of intraplant turnover is excluded from distribution.

In many cases the reason for the lack of balance can be found in the fact that many of the examined enterprises, organizations and institutions are incorrectly encoding the expending materials, fuel and other forms of material production expenditures, and are also incorrectly limiting the produced industrial output to output of a sectorial and non-sectorial nature. In spite of the fact that there are appropriate classifiers, and that explanations are given in the one-time accounting blank forms and so forth, the sectorial affiliation of many products is incorrectly defined, particularly of similar products or products that bear the same designation. For example: ferrous metals (for pig iron, steel, and rolled ferrous metals the MOB code is 09), the output of intersectorial production facilities (castings, forgings, stampings, welded structural parts for machine building the code is 40), metal constructions (for construction the code is 56), synthetic resins and plastics (code 18) and metal products (code 57); hardware for production purposes (code 12); products made from synthetic resins and plastics (code 19); meat from industrial (code 94) and agricultural production (code 106); the same for milk (codes 95 and 106 respectively); individual products of the "synthetic paints" sector (code 21) and "Products of basic organic synthesis" (code 23); chemical products with the same designation by manufactuured by enterprise of different sectors: instruments (code 41), household appliances (code 51); output of the radio and electronics industry (code 54) and output of the electrical engineering industry (code 32) and others. Because of incorrect coding the same kinds of output are reflected differently for the producers and consumers. In balancing "parallel sectors", of which some of their amount of product distribution is greater than the amount of resources; for others it is the other way around, it is necessary to perform a mutual regrouping of expenditures or to change the resources of these sectors.

When balancing the sectors of machine building primary attention must be directed toward the indicators that are reflected along the main diagonal and that characterize the level of specialization and cooperation of machine building enterprises, and also toward the indicators of the accumulation of fixed assets and off-setting withdrawn fixed assets, which are produced in the machine building sectors, and the indicators of capital repairs to machines and equipment. The correct reflection of these data can have a decisive impact upon the overall balance of the machine building sectors. We shall note that when estimating the amount of machines and equipment that has been accumulated by type (sectors of the MOB) there are specific difficulties caused by the lack of necessary information. The amount of accumulated fixed assets can be determined in two ways: as the difference in the amounts of assets at the beginning and end of the year based on residual value and by subtracting from the sum of the amounts of new fixed assets that were put into operation and the capital repair of the sum of the amounts of amortization for the year and the residual value of the assets withdrawn due to wear and tear. The second method is used in the practice of balance-sheet estimates. The total amount of accumulated fixed assets, which is taken from the balance-sheet of national output, is divided in estimating by their accumulation in buildings and facilities, machines and equipment. For distribution of the amount of accumulated fixed assets by sectors of the MOB the indicators of the accumulation in buildings and facilities are attributed to the "Construction"sector, while the indicators of the accumulation in machines and equipment are broken down among the machine building sectors based on estimates taken from the "Blank form for one-time accounting of fixed assets for 1977" (Form No. 2 in industry and Form No. 2-str in construction), and also the statistics on deliveries of machines and equipment, and the annual report in accordance with Form No. 11 (availability of fixed assets by type), and so forth. But all this information has a significant shortcoming: it does not make it possible to estimate the growth in the amount of fixed assets by types of machines and equipment based on their residual value. This circumstance must be taken into consideration when determining the degree of overall balance of the machine building sectors.

For the sector "Repair of machines and equipment" the lack of balance in the MOB is usually expressed by a redistribution of output (output distribution exceeds its resources). Of all possible reasons for this it is necessary to isolate, in our opinion, the two primary reasons. First, in the first quadrant of the MOB for the sector "Repair of machines and equipment" the line should show the distribution only of that portion of output of the repair organizations, which is connected with the current repair of machines and equipment. Some enterprises, however, in the composition of the current expenditures for production erroneously show also the expenditures for capital repair of machines and equipment. Moreover, the cost of the capital repair of machines and equipment, which comprises the greater portion of the output of a given sector, must be shown in the second quadrant of the MOB, at the intersection of the line "Repair of machines and equipment" and the column "Replacement of withdrawn fixed assets and capital repair." Secondly, the cost of purchased parts, pieces and units which are used for repairing motor vehicles, tractors and other items is not included in the amount of output for repair work, if these parts, pieces and units are not included in the prices of repair in accordance with a price list, even though the customer pays extra for them. The cost of units and parts, paid for by the warranty plants over and above the approved prices for warranty repair work, is not included in the amount of output for the repair of household appliances, instruments, and radio and television sets that are produced by enterprises specializing in cosumer goods during the warranty period. To bring the indicators of resources and output distribution into allignment for the sector "Repair of machines and equipment", the spare parts, units and pieces, which are not included in the price of repair in accordance with a price list, must be added to the amounts of material expenditures and gross output of the given sector.

We shall note that the various methods of estimating the amount of output and its consumption exist not only for repair work, but also for those kinds of machine building output, the wholesale price of which does not include the cost of assembly equipment that is obtained elsewhere and which is not subjected to additional processing and assembly.

When balancing the sectors of the industry of construction materials it is necessary to direct basic attention to their connection in the distribution section with the sector "Construction". In the resource section of these sectors a check is made of the amount of transportation surcharge, which is a significant percentage in such sectors as "Prefabricated reinforced concrete and concrete structures and articles", "Wall materials" and "Other construction materials".

In the column "Timber industry products" at the intersection with the line "Timber industry" the full amount of the per-stump payment paid by industrial enterprises and by other enterprises and organizations from other sectors of physical production that have worked in timber procurement is shown. In the sectors of the timber and wood-working industries the technological sequence of the intersectorial ties between them must be followed: outlays of wood for sawmills, sawn materials for production of wood-industry and furniture industry output, and for others.

In the sectors of the light and food industry in the section of expenditures for the production much significance is given to correctly reflecting the indicators of intrasectorial turnover and also the indicators of the consumption of agricultural raw materials. These indicators, which are obtained on the basis of a one-time examination of production expenditures for production, must be checked carefully according to the data of mass statistics.

For example, an important source of information concerning production consumption of agricultural products in the sectors of industry in the form of raw materials is the report "Consumption and remainders of agricultural raw materials" in Form No. 34-sp. The accounting in this form is devised for the enterprises of the ministries of local, light, food, meat and dairy industries, but it does not encompass all enterprises that process agricultural raw materials. For this reason appropriate final estimates are needed for the subsidiary industry, for the enterprises of consumer cooperatives and others. Moreover, to the cost of the industrially processed raw materials (shown in the report in Form No. 34-sp) it is necessary to add the balance of the interrelations with the budget for agricultural raw materials. In addition, to check the reliability of expenditures in the light and food industry it is necessary to use the indicators of the statistical handbook "Structure of retail prices for consumer goods in 1977" (for bread, products of the meat industry, the butter and cheese and dairy industries, for sugar, cotton, wool, staple and linen fabrics, wine and so forth), and the technical and economic indicators of the work of industry (use of raw materials in the production of woven items, in the knitted-wear industry, in leather production, the footwear industry, in the production of bread and flour products and candies, the use of milk in dairy products, products for making sausage, semi-finished goods and canned goods).

In accordance with the procedure of planning and accounting at consumer services enterprises during the individual sewing and repairing of sewn goods, fur and leather products, headwear and textile clothing, the individual sewing of tailoring of knitted goods and certain other operations and services, which are not included in their basic cost (and consequently in the blank forms for one-time reporting by enterprises for consumer services to the public) is the cost of materials of the customer (fabric, fur, knitted goods, yarn and wool). If one speaks of the overall balance of intersectorial ties then the indicators of personal consumption of the public as concerns sewn, knitted and footwear items should be increased by the value of the basic materials, and for fabrics, furs, yarn, wook and knitted goods they should be reduced by this same amount. As concerns the cost of the customer's materials, it should be added to the expenditures of the appropriate sectors of the light industry.

For the sectors of agriculture "Plant growing" and "Animal husbandry), the structure of material expenditures, obtained as a result of random examination of kolkhozes and sovkhozes, must be monitored in the section of the expenditure of basic products of industrial production by data from the annual reports of the kolkhozes and sovkhozes in Form No. 6 "Expenditures for production". In the report in this form commencing with the 1975 report the expenditures for such products as fuels and lubricants, industrially produced fodder, mineral fertilizers, chemical weed killers, biological preparations and medicines, electric power, solid fuel and natural gas, spare parts and repair materials and others are shown in detail and seperately for the production of plant growing and animal husbandry products. In addition, the indicators of the annual reports of the kolkhozes and sovkhozes are used in Forms No. 16 (in the section of fodder expenditure) and No. 20 (in the section for the expenditure of spare parts and totals of repair fees).

The expenditures of agricultural products (intrasectorial turnover) in plant growing and animal husbandry in the form of seeds and planting materials, expenditures for feed for agricultural livestock and other production consumption (eggs for incubation, manure for fertilizer, milk for feeding calves and so forth) must be merged with the data of the balance sheet of agricultural products in the farms of the producers.

When developing the indicators of the MOBs of the union republics, the overall balance of the sectors is greatly influenced by the reflection of the indicators of bringing in and taking out product (including the indicators for its export and import). Without touching upon the many problems of obtaining such data, we shall deal only with the problem of evaluating the indicators of bringing in and taking out product.

Practically speaking, when compiling the MOBs of the union republics the total of product bringing in and taking out is shown in wholesale price of industry (including the turnover tax) plus the trade and transport surcharge for delivering the product to the border of the republic (i.e., according to the "f.o.b. price republic border"). Output that is transported through the territory of a given union republic is not shown in the MOB as product brought in or taken out (the cost of transit shipments is logically reflected as the export of transportation services).

The indicators for hauling product in and out can be estimated according to the price of final consumption, which includes all expenditures on the route of the product from the producer to the consumer, regardless of which republic they traveled. The basic shortcoming of this estimate is the large amount of duplicated accounting of the trade and transportation surcharge in the cost of product taken in and taken out, which is evident when adding these indicators by republics. In addition, when such a method of accounting is used problems arise in coordinating the indicators of transporting in and out with the indicators of the balance sheet of the aggregate national product and national income for the Soviet Union as a whole and for the union republics.

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PROFITABILITY, NET OUTPUT NORMS FOR INCENTIVE FUND FORMATION

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[Article by Yu. Vyal'yataga, candidate of economics and director of the Estonian SSR Gosplan Scientific-Technical Information and Technical-Economic Research Scientific Research Institute: "Economic Incentive Funds"]

[Text] The CPSU Central Committee and USSR Council of Ministers decree "An Improvement in Planning and an Increase in the Impact of the Economic Mechanism on an Increase in Production Efficiency and Work Quality" defines the main directions for improving the economic mechanism thus: "The task is to raise the level of planning and management and bring them into line with the requirements of the present stage--that of developed socialism--strive for a considerable increase in social production efficiency, an acceleration of scientific-technical progress and labor productivity growth and an improvement in product quality and, on this basis, insure a constant upsurge in the country's economy and the Soviet people's well-being."

The entire profundity and significance of the new decree are being revealed even now, although many of its provisions will be made clear in their finer details as the specifying documents are published. Explanation of the decree to the broad working people's masses has only just begun, and this work will take more than just 1 year. There will be major changes at the present stage of the improvement in the economic mechanism, and certain of them are scheduled to occur over a more protracted period, moreover.

Economic incentive funds play a constantly growing part in increasing the labor collective's interest in the efficiency and quality of their work. Therefore it is advisable to begin with an examination of the method of their formation, which incorporates an essential innovation: normative stimulation now covers not individual years but the entire five-year plan as a whole, and a principal goal of the renewal of our economic mechanism--new quality in the development of social production--will be realized in the next 5 years.

Normative Stimulation Within the Boundaries of the Entire Five-Year Plan

This subhead includes an entire complex of important innovations. The decree envisages the transition in the 11th Five-Year Plan to the formation of economic incentive funds according to stable norms approved in differentiated amounts for individual years of the five-year plan.

Back in the Ninth Five-Year Plan the amounts of the economic incentive funds were linked with fulfillment of the five-year plans. This system will undergo considerable further development in the 11th Five-Year Plan. The point is that the forward plans for the last two five-year periods were approved with something of a time lag, and the economic incentive terms were determined after the formation of the plans. For example, the incentive terms currently in effect in the industry of the Estonian SSR were formulated in the first half of 1977 in that the all-union procedure and norms were approved only in December 1976.

Steps are now being taken to change this situation. The idea is to put into effect at all levels precise norms for the formation of economic incentive funds prior to the approval of the five-year plan. In the two previous five-year plans the norms were used to alter the preset size of the funds but not to determine their initial amounts. The role of the norms was thereby essentially diminished.

The amounts of the incentive funds for the period 1977-1980 in overall terms were known to all departments and enterprises. Theoretically their size should have been dependent on the extent on the increase in efficiency and the tautness of the qualitative plan indicators. Unfortunately, this was only the case in theory. In reality the level of the financial incentive was conditioned by two circumstances: first, the big intrinsic time lag of the incentive systems themselves and, second, the absence of strict rules for determining an annual planned total of the incentive funds, which creates an opportunity for their nonobjective distribution.

In the new five-year plan it is proposed to ease the time lag of the systmes in question by means of the application of the normative method of forming economic incentive funds. Hitherto matters were arranged thus: if a ministry, association or enterprise had by the end of the previous five-year plan succeeded by right, good work or simply by a fortunate coincidence in achieving big amounts in the incentive funds, in the next five-year plan the annual totals thereof were not, as a rule, reduced.

Under the conditions of a manpower shortage a reduction in incentive funds could cost an enterprise dear. Incidentally, certain ministries are adopting a toughter position, aspriing to equalize the levels of financial incentive, which is, however, making its organization more difficult. For clarity's sake, let us take the following example.

As is known, the labor collective of the Kokhtla-Yarve "Slantsekhim" Production Association is one of the best in the republic. It is confronted with crucial tasks to commission a new complex, which will produce mineral fertilizer. As a result the number of those employed in the association is increasing somewhat, but the planned totals of the economic incentive funds are not being increased here. The USSR Ministry of Petroleum Refining and Petrochemical Industry planned for 1979 a reduction in these funds compared with 1978, and next year they will be even less.

Of course, compared with the average level of the enterprises of this ministry our "Slantsekhim" workers have bigger economic incentive funds chiefly thanks to particularly good work results in the Ninth Five-Year Plan. But is it sensible to cut down the funds? For time-rate remuneration predominates in shale processing, and without a sizable bonus its level and dynamics will lag behind the corresponding indicators of the piece-rate payment applied at allied enterprises. And this is fraught with the risk of a manpower shortage at an enterprise which is of such importance to our agriculture. Therefore, as distinct from many other enterprises, the "Slantsekhim" Production Association spends a considerable proportion of the material incentive fund on paying bonuses to the workers.

The sluggishness of the incentive system can also be illustrated by examples of another kind. The republic's light industry failed to achieve the production growth planned for the Ninth Five-Year Plan. Rules are rules, and the economic incentive funds were reduced. But the consequences of this step are being felt to this day. A most important sector producing consumer goods has far less opportunity for material incentive than other sectors, although the union ministry was accommodating toward the republic Ministry of Light Industry when it approved the material incentive totals.

For a long time the economic incentive funds of enterprises of the Estonian SSR Ministry of Consumer Services were somewhat less than those of industrial enterprises, and there was a particularly large discrepancy in the amounts of the social-cultural measures and housing fund. It is hardly possible to enlist skilled young personnel in the services sphere when there is a lack of resources for the development of amateur artistic activity and sports, an improvement in recreation conditions and so forth. Comparative calculations showed such a lagging behind industry that sources of an increase in the incentive funds in the consumer service system had to be found, nonetheless.

It would happen in the practice of stimulation that economic incentive funds which had been cut back at one time (owing to direct work results) continued to have a negative effect on proceedings for a long time. This was hardly just or expedient. The stipulation in the five-year plan itself of the norms of the formation of economic incentive funds should have removed this excessive inertness. At the same time a certain inertness of the system is still necessary to avoid unduly large fluctuations in the wage level.

The system of norms of the new five-year plan is also designed to prevent another mistake mentioned above. The overall planning of the fund for each year does not exclude elements of a subjective approach. Let us assume that the economic incentive funds allocated a ministry operating in accordance with the industrial enterprise principle are so meager that they are manifestly inadequate for the normal stimulation of the whole system. There can be two solutions in this case.

The first is seen in the uncovering and utilization of internal reserves for an improvement in the operation of the enterprises and in obtaining additional incentive funds in accordance with the corresponding norms. There is no doubt that this solution, which is based on the economic mechanism, is the sole correct one.

Yet there is also another solution: persuading the union ministry to allocate an additional several hundred thousand rubles for the five-year plan or, subsequently, from the reserves. This frequently happens, and when a state-minded approach and the proper reasons constitute the basis of the solution, there is nothing bad in this, if we overlook one "but." Since it is possible in this way to get an increase in the material incentive funds without any particular labor, is it necessary at all to exert efforts for the sake of an increase in production efficiency and product quality? The norms could change the situation, although the subjective factor could be reflected in these also. Of course, the economic mechanism as such and financial interest as an independent phenomenon are the subject of this discussion. But together with these there are also effective moral incentives, which should not be disregarded.

The production manager is not without moral incentives also, as a rule. The communist's conscience, the humanly understandable aspiration to self-assertion and so forth cannot fail to be reflected in the state of affairs. For this reason the task is to create an economic mechanism which in all cases in life (or, at least, in the majority of them) operates in unison with moral incentives and not in spite of them. This is a difficult task. In the business of perfecting financial autonomy it is impossible to place one's trust in a decree, adopted following thorough preparation, solving at one stroke all the most intricate problems of the regulation of economic life. It is important to be imbued with an awareness of the fact that a great deal of serious work has to be done.

The system of incentive norms being organized should conform to two requirements: they should be stable and at the same time moderately flexible. A shortcoming of the bonus system which operated in the past--it was based on the indicator of a reduction in production costs--was precisely a lack of essential stability. The plans for a reduction in production costs changed relatively frequently, and the enterprise managers found themselves in a dual situation: on the one hand there was an interest in obtaining a bonus and, consequently, in a reduction in production costs, but, on the other, it entailed an immediate change in the plan and the base indicator of the payment of bonuses itself. The incentive system currently being outlined is designed to eradicate this shortcoming--the norms will be determined for the entire five-year plan.

Exceptions, as is known, merely confirm the rule. The incentive norms of the plan indicators of individual years should be changed when necessary. Existing practice does not, unfortunately, always take account of this requirement. The situation in which the ocean fish catch found itself following the establishment of the 200-mile coastal zone is common knowledge. But the USSR Ministry of Fish Industry has not changed the material incentive system accordingly, and its effect has been reduced, it may be said, to a minimum.

Examples of expedient decisions also may be cited from the last five-year plan. The bus and taxi fleets of the republic's Passenger Transport Administration found themselves in a situation where the increase in the number of passengers and, correspondingly, revenues had been overstated by the plan. At the same time there was also an increase in the wholesale prices of passenger cars and buses. It was therefore necessary for a time to change the incentive system in order not to have to abandon manaterial incentives altogether owing to the shortage of cash resources.

Stimulation of Qualitative Indicators

A basic principle of the operation of the economic mechanism consists in encouraging the growth primarily of qualitative indicators. However, we have not yet succeeded in realizing it in full.

In the 1960's the material incentive funds were formed on the basis of true reckoning, and the impression was created, moreover, of the profitability indicator having predominance over the output-increase indicator. In reality, however, there was only a negligible change in profitability in this period, and the incentive funds were differentiated predominantly in accordance with the increase in output compared with the previous year.

The same correlation was maintained in the Ninth Five-Year Plan: the quantitative growth of output was given preference over profitability in the formation of the material incentive funds. There was also a positive aspect, it is true--a further indicator--labor productivity growth--was added to the fund-forming indicators, although with a lower norm than the output-increase indicator.

There was an important breakthrough in the 10th Five-Year Plan in favor of qualitative indicators. The proportion of products bearing the Sign of Quality and labor productivity growth were chiefly taken into consideration in the formation of material incentive funds in industry. The indicator of an increase in the output volume is now of tertiary significance, and the profitability norms remain low, as before. The measurement of labor productivity in rubles (of the gross product) per worker is imprecise.

The practice of the application of an economic incentive system in industry in our republic differs somewhat from the general procedure. Application of the profit-growth indicator, thanks to which interest in reducing a product's prime costs is maintained, has proved unconditionally effective at enterprises of republic subordination and of the food industry. The Estonian SSR Ministry of Food Industry and Ministry of Meat and Dairy Industry have succeeded in materializing the workers' interest in an increase in labor productivity. New, scientifically substantiated methods have been employed in differentiating the norms of the formation of economic incentive funds. However, fund formation has not proceeded as smoothly everywhere. For example, the USSR Ministry of Light Industry did not consider it possible to determine a norm for the growth of the productivity of labors, which was, as a result, deprived of due incentives.

We should recall the following to avoid mistakes in the future. The decree emphasizes the need to develop democratic principles in production management and enhance the creative initiative of the labor collectives. For this reason it is important to discuss the indicators of the incentive system in the planning organs, ministries, production associations and enterprises prior to their formal approval. Proceeding from their appropriate experience, the republic's economists are ready to find the optimum indicators and norms guaranteeing an intelligent combination of the interests of the state and the enterprises.

Let us further examine individual fund-forming indicators and attempt to illustrate that which is new which lies in their use and measurement.

The proportion of products bearing the Sign of Quality as an indicator will be applied everywhere in the new five-year plan where manufactured products are subject to certification. If the conferment of the Sign of Quality really signifies higher product quality from the viewpoint of the consumer, if it is not conferred with undue readiness and if all this does not require much too complicated documentary registration, interest in an increase in the manufacture of products of the highest quality category will be insured, as a rule. The new decree also permits the application of other qualitative indicators in stimulation. To prevent the advertising of products which are injurious to health the conferment of the Sign of Quality on alcoholic beverages and tobacco products, for example, is prohibited. However, this does not rule out the use of other criteria of an evaluation of quality. There should evidently be a reduction in the harmful components in wine and vodka products and an improvement in filters in cigarettes.

The quality indicator is applied at all stages of the formation of the material incentive fund: in the five-year plan at the time of the calculation of the annual totals of these funds, the approval of (or change in) the annual and substantiation of the counter plans and, finally, determination of the ultimate size of the funds in accordance with actual work results. However, in each instance of the use of this indicator it is necessary to get to the heart of matters. In certain sectors and at certain enterprises the bulk of the products is subject to state certification, whereas in others only a negligible proportion of them is so subject. In some cases the conferment of the Sign of Quality is accompanied by a price addition, which is an incentive in itself, whereas in others this does not happen. One enterprise manages to put into effect reserves of an improvement in quality comparatively easily, whereas at another their commissioning requires considerable effort on the part of the collective. For this reason there is nothing worse than a purely mechanical approach (with one and the same yardstick) to different conditions.

The indicator of labor productivity growth should be universal in stimulation, only the science-production associations and experimental plants, where this indicator is applied, as a rule, merely for internal stimulation, may constitute exceptions. The significance of this indicator will clearly increase, and, what is most important, there must be a change in the measurement of labor productivity. The calculation of labor productivity from the gross product increases the interest in the manufacture of products from expensive materials and in higher prices for new products, slows down expansion of the production of inexpensive goods essential to the consumer and frequently reacts too sharply to improvements in the production structure or changes in the degree of cooperation involved in the production. From these standpoints gross output as an indicator has long been criticized, and it is now time to replace it with one that is more accurate.

The new decree provides the solution. There will be a gradual transition to planning the output volume from the indicator of net output (normative) as the conditions mature. It is proposed evaluating labor productivity growth from the above or another indicator more accurately reflecting the changes in labor input. Together with the net product in rubles labor intensiveness measured in norm-hours, for example, could be such an indicator.

Scientists and practical workers propose various alternative definitions of net output and labor intensiveness. Initially it is not important which of them is given preference. The most acceptable alternative should be selected, depending on the specific features of the sector of industry. It should primarily be sufficiently simple to implement because the application of each new indicator is connected with surmounting a certain psychological barrier and the usual human cautiousness toward that which is new.

Further, it is essential to avoid the shortcomings inherent in the former indicator, particularly those connected with improvements in the production structure. Insofar as there are big differences in product profitability it will be necessary to in some way level it in the elaboration of the net output norms. At first glance this might appear straightforward, but in reality a thorough analaysis is needed to determine by what one will be guided: the average profitability of an enterprise (production association), group of enterprises, industrial association, subsector, sector or of an entire department or even by average profitability for industry as a whole.

One further idea deserving serious examination has matured in our institute's financial autonomy department. If the labor productivity norm is now becoming an important indicator of the determination of the total of the economic incentive funds for each year of the five-year plan, we can no longer adopt toward it the attitude which we did hitherto, when we frequently confined ourselves to the application of some average norm in changing the amount of these funds. It would appear that the net output norms should have a definite stimulating effect removing the disparities caused by the differences in product profitability. The same effect would also be provided, of cousse, by a general regulation of prices, which, however, would take more time, would inevitably be reflected in retail prices and would not always permit the adoption of local decisions.

We shall call this stimulation in accordance with market conditions and profitability (SKR). In elaborating the net output norms we first put the product in two categories: with high and low productivity. Then, following an evaluation of supply and demand, we delimit the products into critical and noncritical. The net output norms according to the SKR method (with observance of the generally accepted procedure in a given sector or department) may be calculated in two cases out of the four: for critical highly profitable and noncritical unprofitable products. In the first case the high profitability engenders an interest in increasing the manufacture of a product in high demand, in the second the low profitability is no incentive to augment the production of products not in particular demand.

There are two more interesting possibilities in the formation of net output norms by the SKR method. Higher net output norms should be established for critical unprofitable products than are provided by true reckoning. Here are examples.

Light industry experiences constant difficulties in the production of children's goods, in which connection the new decree envisages their separate nomenclatural planning. If just slightly more favorable net output norms are introduced with respect to children's good in high demand than for highly profitable goods for adults, the manufacturer will have an additional incentive for expanding the production of children's goods. Or to take the food industry. Trade prefers packaged goods in order to raise labor productivity, particularly in the self-service stores. Unfortunately, the addition to the price far from always cover the additional expenditure on packaging the product, and there is insufficient manpower, moreover. But if net output norms which are more favorable to the enterprises are determined for packaged goods in high demand, the maximum growth of the production of these goods will be perfectly possible.

And, finally, concerning highly profitable, but unmarketable products. It is clear that no one will today manufacture products which merely overstock the warehouses. However, there is still in high profitability a certain temptation to continue the production of such products and to seek markets beyond the republic instead of manufacturing goods to satisfy local requirements. There is a simple solution--establish a lower net output norm.

It may be objected that the SKR method contradicts another function of net output--serving as the most precise basis of planning the wage fund. To judge by everything, there is no need for apprehension here. The necessary leveling of profitability leads in one way or another to the net output norms not always being proportional to the basic wage. The subsequent differentiation of the norms in accordance with the SKR method may increase these deviations, but only in a direction favorable for the national economy and the consumer.

I believe that we should attempt to put this idea into practice. The regulation of prices in the future could lead to the smoothing away of the differences in product profitability. There would then also be a change in the SKR method, however, there would still be a need for differentiation as before. In any event, the determination of net output norms depending on demand is useful, and, moreover, a higher net output norm would correspond to increased demand.

Like the quality indicator, labor productivity growth will be applied at all stages of the formation of economic incentive funds.

Other qualitative indicators may also be employed in accordance with the specific features of the sector. Of these, indicators of the level of capital productivity and profitability and also of a reduction in production costs are not provided for in the stimilation procedure applied in the current five-year plan. The profitability indicator has been applied in practice everywhere, but the nonscientific method of calculating the corresponding norms has reduced the effect of this indicator to a minimum. The new decree broadens the possibility of choice of indicators.

The framework of this article does not permit a more detailed examination of these indicators. In any event, enterprises' interest in reducing material expenditure and in the better utilization of production capital is essential.

The intelligent use of the capital productivity indicator presupposes an evaluation of output in accordance with the net output (normative) method. The stimulating effect of the profitability indicator may be increased on condition of a considerable improvement in wholesale prices in the future. However, both these indicators presuppose comparability of the evaluations of fixed capital. Unfortunately, this cannot currently be guaranteed, particularly if it is a question of imported equipment--nobody knows what its value will be in 1985.

A reduction in production costs could lay claim to the role of a fund-forming indicator only on condition that the plans of production costs be amended in line with changes in the production structure or if the structural changes in the products of a given sector are negligible.

The new decree terms an increase in profit a goal of economic activity. At the same time it is not among the fund-forming indicators. There is a simple explanation for this: interest in profit may be manifested variously in the system of stimulation which will be applied in the 11th Five-Year Plan. First of all, profit always serves as a source of assets for the economic incentive funds, and, consequently, the profits plan must be fulfilled. Above-plan economic incentive funds must be limited to the amounts of above-plan profit.

There will be substantial changes in the system of material incentive in the 11th Five-Year Plan: henceforward the norms of the formation of material incentive funds will constitute a percentage of profit. For this reason an evaluation of the extent of the interest in profit requires additional analysis. The doubt arises: will the system of norms not be too motley insofar as there are very big fluctuations in the bulk of the enterprise profit compared with the material incentive funds.

The planned material incentive fund for 1975, which formed the basis of the norms of the 10th Five-Year Plan, was not without certain flaws, but justified itself upon flexible application. Highly successful use was made in the Estonian SSR's industry of the norms differentiated on this basis.

In addition to all else, with increased financial autonomy it is proposed to switch to the distribution of profit between the state budget and the ministry, which will increase the interest in profit at the time of the approval and fulfillment of annual plans.

Industry is confronted with the main task--insuring product supplies to the customers in accordance with the concluded contracts. Fulfilling contractual obligations on time, as a cumulative total from the start of the year and both in overall terms and also in accordance with the schedule (assortment)--such was the main demand put forward back in 1977 and again put on the agenda in 1978 at the time of the introduction of the new bonus-payment procedure. In the next five-year plan the observance of contractual obligations to each individual recipient will be a main criterion of the evaluation of actual production results. The experience accumulated in this sphere is currently being collated in our institute's financial autonomy department. The problem as a whole deserves independent and comprehensive examination.

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IMPROVING CAPITAL-INVESTMENT PLANNING

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[Text] It is pointed out in the decisions of the 25th CPSU Congress and in the decree of the CPSU Central Committee and the USSR Council of Ministers, "Concerning Improvements in Planning and Strengthening the Effect of the Economic Mechanism for Increased Production Effectiveness and Quality of Work," that at the present stage in the creation of the material and technical base of communism the chief task in capital construction is to increase the effectiveness of capital investment, hasten the placing of production capacities in operation and provide for qualitative improvements in fixed capital in all branches of the national economy. Capital investment must be directed primarily to those branches and areas of the national economy which provide for high rates of growth in scientific and technical progress and for production effectiveness.

Capital investment is carried out through an economic system of capital construction. In this branch of the national economy were occupied 7.2 percent of the total number of people working in the national economy in 1960, 8.2 percent in 1970 and in 1977 more than 9 percent. In 1960 3.1 percent of all fixed production capital in the country went to construction; in 1977 it already amounted to approximately 4.6 percent. Approximately 10.3 percent of the the gross national product is generated in capital construction.[1]

The large and complex economic system "construction" is closely tied to other branches of the national economy and forms with them the national economy of the mature socialist society of the USSR.

Other branches of the national economy influence the "construction" system by forming "input" to the system in the form of "flows" of specific material resources, labor forces of specialists and construction workers and various economic and technical information. Construction production transforms these "flows" into a final product, namely, the fixed capital of the national economy and the production capacities. The cycle of this transformation is of long duration. Society must take into consideration the fact that enormous resources become "forzen" in the "construction" system for many months before realization of the use value of the fixed capital becomes possible. The volume of unfinished construction on 1 Jan 1965 amounted to 29.6 billion rubles, on 1 Jan 1971 it was 57.9 billion rubles and on 1 Jan 1978 it was already 92.4 billion rubles.[2] This is one of the most important conditions which predetermine interest in the problem of effectiveness in the given branch of material production.

A systems approach, in which construction is viewed as an element of the more general system of the "national economy," indicates that the problem of the effectiveness of capital construction must be examined in at least two aspects, the national economic and the branch. The national economic effectiveness of the "construction" system can be expressed only indirectly, since, as an element of the "national economy" system, the former creates a national economic effect in conjunction with other elements of the latter, namely, with industry, agriculture and with branches of the infrastructure. On the whole, the national economic effect is embodied in the national product, the net product, the national income and in other more generalized indicators of the functioning of the economy.

Two aspects of the effectiveness of national production can be distinguished from the national economic positions. The first is relatively specialized. It is the effectiveness of utilization of each expenditure unit or of each unit of resources used in production ($\frac{\text{effect}}{\text{resources}}$). However, the final goal of production is the satisfaction of the demands of society; under the conditions of socialism, the chief and direct goal of national production is, as is well known, to more fully satisfy the diverse demands of the working masses. In analyzing the effectiveness of national production from this primary position, it is not difficult to see that the level of utilization of each unit of resources used or expended in production is insufficient. It is necessary to know the level and degree of involvement of resources in production as well as the entire mass of resources utilized (or expended). The satisfaction of the diverse demands of society as the chief and direct goal requires that the effect of developed production be correlated with the mass of national demands which are determined by the nature of the subject of those demands, namely, the national population. The relationship $\frac{\text{effect}}{\text{population}}$ characterizes not the particular but the total, absolute effectiveness of national production.

The dynamics of the growth in absolute effectiveness of national production in our country is steady, which is confirmed by the data for 1970-1977 presented in the table.

Indicator	1970	1977
Produced national income	100	146
Total consumption resources (consumption fund + non-production accumulation)	100	140
Fixed production capital	100	176
Population (at the beginning of the year)	100	107
Growth in the effectiveness of national production:		
a) National labor productivity	100	134
b) Produced national income per person in the population	100	145
c) Total consumption resources per person in the population	100	131

Management of the processes of the growth in the effectiveness of national production is impossible without utilization of a system of indicators which reflect both of the indicated aspects of effectiveness. Such a system of indicators now exists and was approved by Gosplan USSR as required for all levels of planning for the national economy and for all executors. It includes correlating indicators of increases in the economic efficiency of national production, indicators of increases in the efficiency of labor utilization, indicators of increases in the effectiveness of utilization of fixed capital, working capital and capital investment, and indicators of increases in the efficiency of material resource utilization. As applicable to the system of construction, the following indicators have been established: capital-output ratio, turnover rate of working capital, relationship of the growth in the yearly volume of national income to the capital investment produced by the growth and the recovery period for capital investment.[3]

However, can that system be accepted as faultless? In our view, no. Of course, the authors are correct in seeing an indisputable value in the system of national economic plan indicators to be the fact that "the correlating indicators of production efficiency are not constituted from indicators of the effectiveness of utilization of resources expended by society in the production process, but are calculated, primarily, as the relationship of the dynamics of effect (in the form of national income and resource consumption) to the dynamics of population."[4] Presented without sufficient justification is the assertion according to which "it is sound practice for the present to orient actual planning of production efficiency on the indicators which characterize the level of utilization of individual resources (in particular, of capital investment and producer goods)...",[5] that is, on indicators of relative (individual or resource) efficiency of national production.

Resource effectiveness during specific periods in the development of a socialist economy can have a tendency toward reduction, as has happened in the last seven years with the capital-output ratio. During the period 1970-1977 the volume of national income $(Д_н)$ grew by 46 percent, the population of the USSR increased by 7 percent and fixed production capital by 76 percent. Thus, we obtain:

$$K_{\text{э.ч}} = \frac{Д_{\text{н}}}{Ф_{\text{о.п}}} = \frac{146}{176} = 0{,}83,$$

where $K_{\text{э.ч}}$ is the efficiency coefficient (specific), $Д_{\text{н}}$ is the rate of growth of the national income and $Ф_{\text{о.п}}$ is the rate of growth in fixed production capital.

The absolute (total) efficiency of national production can be calculated according to the formula

$$K_{\text{э.о}} = \frac{Д_{\text{н}}}{Н} = \frac{146}{107} = 1{,}36,$$

where $K_{\text{э.о}}$ is the efficiency coefficient (total) and H is the rate of growth of the population of the USSR.

Thus, during the last seven years the efficiency of national production (total) grew by 36 percent, while the effectiveness (individual or resource), expressed in the given case for the capital-output ratio, fell by 17 percent.

Moreover, the enormous scale of capital construction in our country requires definite changes in the approach to planning capital investment and its utilization. In the Yearly Report of the CPSU Central Committee to the 25th Party Congress, L. I. Brezhnev pointed out that "Capital investment must be allotted by the ministries and departments not in general and not for new projects but for planned growth in production."[6] These investments are long-term and for the distant future they determine the directions and rates of growth of the branches of the national economy and the structure of fixed production capital. In the final analysis, the level of efficiency of national production in the future depends on capital investment. Therefore, the development of effective programs of capital investment in the various branches of the national economy takes on primary importance. The branch plans for capital investment are the part of the system of the unified state plan through which the state investment program is carried out.

The projected plans for capital investment of any branch are developed and designed to be optimal on two levels: the ministry and Gosplan USSR. After the state plan for capital investment has been formulated and approved, optimization of its distribution among the associations and new projects and management of the process of carrying out the plan become the responsibility of the ministry.

The logic for the development and establishment of an optimal plan of capital investment is the same both for Gosplan and for the ministries as applied to all the distinctions of a specific implementation of the plan. It includes:

1. Analysis of the fulfillment of the capital investment plan, determination of the scale, composition and structure of the work in progress and of the unfinished construction.

2. Determination of the requirements of society for production of a given branch or of the subbranches and production which organizationally enters into the system of the ministry.

3. Determination of the volume of production capacities which are necessary for meeting the demands of society and the volume of production capacities placed in operation during the plan period.

4. Determination of the volume and structure of capital investment necessary for the creation of new production capacities and for providing for normal work in progress.

5. Justification of the volume and structure of capital investment from the point of view of the financial and material resources as well as the capacities of the construction industry.

6. Optimization of the distribution of capital investment among the associations for the development of existing capacities and for the creation of new capacities through new construction.

In the book "Methodological Instructions for the Development of State Plans for the Development of the Economy of the USSR,"[7] the chapters devoted to planning capital construction are on the whole extremely rich in content, but the process of composing and justifying the optimum plans of capital investment which are drafted by the ministries is, in our view, not systematic and is without full expression of its logic. In the chapter "Planning Capital Construction," the problems examined are those of planning the primary indicators of the plan for capital investment, planning capital investment in the branch of physical production and in the nonproduction sphere, planning the structure of capital investment and the title lists of new construction projects, calculations of capital investment to support the capacities of existing enterprises, construction work in progress and unfinished construction, the effectiveness of capital investment and so on. Thus, stress is placed on order and composition in drafting a plan of capital investment. It is not even a matter of there being nothing said in the Instructions about the methodology of justifying the volume of capital investment from the point of view of the resources and capacities of construction organizations, about the distribution of capital investment among the associations, and so on.

What is most important is the fact that in the "Methodologies" capital investment planning is viewed not as an element of a more general system of planning for the national economy as a whole, but rather as a specifically isolated part of the plan. Therefore, in calculations of unfinished construction, it is only mentioned as necessary for determining its total volume (according to the balance formula: the volume of unfinished construction at the beginning of the plan period plus the volume of capital investment minus the fixed capital placed in operation minus the expenditures which do not increase the cost of the fixed capital is equal to the volume of unfinished construction at the end of the period). However, for the draft of a branch plan this is all only a minimally necessary but far from adequate calculation. Scientific planning of capital investment is impossible without determining the actual volume of unfinished construction, including (and primarily) the volume of work in progress. If unfinished construction is viewed as something uniform in all its parts, then it is possible, of course, to limit oneself to the general instructions concerning reduction of its volume. However, unfinished construction is an extremely nonuniform system. In a number of instances a significant increase in work in progress may be necessary and, in conjunction with this, an increase in the volume of unfinished construction (along with simultaneous elimination of negative elements in the structure of unfinished construction).

In the decree of the CPSU Central Committee and the USSR Council of Ministers dated 12 Jul 1979, the section devoted to increasing the effectiveness of capital investment is not aimed at reducing the total volume of unfinished construction but at bringing it within fixed standards in the next few years.

Capital investment is carried on in the process of creating new and expanding existing fixed capital with production and nonproduction purposes, that is, in the process of capital construction. Increasing the effectiveness of expenditures in this process depends on a whole series of factors, the most important of which are: improvement in design and planning decisions, improvement of the technology and organization of construction production, reduction of the time periods for creating and placing new production capacities in operation, and so on.

The use of building grouping and an increase in the proportion of multistoried industrial projects and their standardization produce a significant economic effect (reduction in the cost of operation and faster rates of construction). However, a routine, noncreative approach to standardization often leads to serious difficulties in planning and locating industrial equipment and to great losses. A solution to this problem would be the replacement of standardization in buildings and structures with the standardization of individual building structures (for example, in the width of spans, and so on). Also important are the change from total use of reinforced concrete structures to more extensive utilization of metal girders and ceilings and the implementation in construction of light concrete and prestressed structures, synthetic materials and materials made of aluminum alloys. However, deficiencies in construction and public health norms and rules often hinder the application of efficient design and planning decisions. Design organizations often are limited in their choice of arrangement solutions and groupings for production due to unjustified requirements for the division of warehouses into individual compartments or due to limitations in the span width of the foundry and forging shops. Often realization of a plan stretches out over many years. For example, in machine building, the period between making the decision for construction of a new enterprise or the modernization of an existing enterprise and completing the plan extends to almost 10 years (2-3 years for planning, 4-6 years for construction and 1-2 years for putting the production capacities into operation. Under conditions of rapid scientific and technical progress, production equipment and methods change during such a time period, new, interchangeable types of products appear and the economic ties of enterprises can change as a result of which the economic indicators for the construction project do not correspond to the planned indicators.

Thus, improvement in the design and planning decisions and the careful selection of plans have great influence on the length of construction time, the stability of the capital investment plans and on increases in their effectiveness.

The effective of capital investment is directly dependent on production costs in the investment branches of the national economy and in construction it is primarily dependent on the cost of construction and installation work. A reduction in the latter is based on increasing the machine-worker ratio in construction. The capital-labor ratio is lower in this branch than in industry, but in conjunction with the higher rate of growth of the capital-labor ratio in construction, these indicators have a tendency to converge.

Improvement of the technology and organization of construction production and the implementation of efficienc design decisions have a great influence on the level of construction mechanization. Widespread application here of large-sized elements, panels and units and carrying out initial processes at production enterprises are already permitting nearly complete mechanization of individual types of work in construction. For example, in 1977 the installation of concrete and reinforced concrete structures underwent general mechanization to a level of 97.2 percent, the preparation of concrete to 87.6 percent, loading and unloading operations in the branch were mechanized to a level of almost 96 percent and excavation and earth moving to 99.4 percent. To a significant degree this also explains the growth in the mechanization-labor ratio which grew during the period of 1940-1977 by a factor of 18.7 in construction.[8]

Development of the separate branches of industry depends greatly on the duration of construction and on placing the production capacities in operation, because in the final analysis the rates of growth of industry are determined not by the volume of capital investment but by the production capacities put into operation. Construction time depends on many factors, primarily on the concentration of capital investment in projects under construction and on bringing the volume of unfinished construction within the norms.

An indispensable condition for the minimal period of capital investment in unfinished construction is the reduction of time periods for project construction. In recent years the construction time for enterprises has been somewhat reduced, however, in individual branches and in the national economy as a whole they exceed accepted standards which results in fixed capital and production capacities being placed in operation late. This concerns light industry, the food and cement industries and a number of machine tool enterprises. The volume of capital investment allocated in these branches is less than what is required and stipulated, not only for the construction projects, the construction of which begins in the given year, but also for the projects under construction as well. A break occurs between the capital investment plans and the standard construction time periods. Such a disparity is most often explained by the lack of preparedness of the construction industry bases and the impossiblity of completing a large volume of work by the contracting construction organization as well as by the existence of a significant volume of unfinished construction, a large surplus in the estimate limit for construction already begun, and so on. Therefore, the decision made in the decree of the CPSU Central Committee and the USSR Council of Ministers dated 12 Jul 1979 concerning the approval of firm five-year plans of capital investment beginning with the 11th Five-Year Plan, which are balanced with physical, labor and financial resources as well as the capabilities of the construction and installation organizations, is extremely important and timely.

In branch planning practice (especially in the development of long-range plans), as a rule expenditures which do not increase the cost of fixed capital are not taken into account in determining the volume of unfinished construction, although often they comprise a significant sum. The proportion of expenditures which do not increase the cost of fixed capital can reach 4-5 percent in the estimated cost of construction and even more in the total volume of capital investment.[9]

In the development process of capital investment plans it is important to achieve an increase in the effectiveness of the capital expenditure structure and primarily in the technological structure.

The indicator for the technological structure of branch capital investment depends on many factors, the most important of which are: the proportion of expenditures on the infrastructure (on the construction of waste installations, roads, ancillary construction projects, and so on), the relationship between new construction and modernization, the proportion of nonproduction construction, and natural and climatic conditions (the possibility of installing industrial equipment in open areas or under light covers).

In several branches of the national economy, an increase in the proportion of equipment in the technological structure of the capital investment is not always provided for in the plans, which is explained by the following reasons: a) an increase in the proportion of new construction in the branch plans of capital investment, b) a shortage of capital investment directed toward replacing obsolete equipment and a shortage of capital investment for equipment not included in the construction project estimates, c) nonobservance of the time limits for installing equipment at sites and projects under construction, d) ineffective design and planning decisions, and so on.

Deterioration of the technological structure of capital investment causes adverse structural shifts also in the composition of operating fixed capital. In recent years, for example, the proportion of assets of operating fixed capital has not only not grown but has even fallen, from 48.1 percent at the beginning of 1970 to 46.6 percent at the beginning of 1978. For industry of the USSR as a whole, the proportion of equipment in industrial fixed capital has increased for that period from 47.7 percent to 49.9 percent. The technological structure of fixed production capital depends on the rates of introducing new fixed capital and withdrawing operating fixed capital. Therefore, in planning capital investment in those branches of industry where the proportion of equipment in fixed capital is low, it is necessary to establish a technological structure of capital investment which will permit an improvement in the structure of fixed production capital by the end of the planned period. In developing the capital investment plan, a criterion for the effectiveness of the capital expenditure structure is the final result of the capital investment which has been made, namely, changes in the technological structure of the operating fixed production capital by the end of the planned period and not a reduction in the proportion of construction and installation work in the total volume of capital investment. In determining the technological structure of capital investment for the branch during the planned period, it is necessary to work out and widely utilize the balances of the fixed production capital on the basis of which it is possible to determine the structural shifts in the fixed capital for the entire planned period.

The technological structure of capital investment is essentially different from the technological structure of fixed capital inasmuch as in capital investment the expenditures for building foundations under equipment and for its installation are included in the construction and installation work, and on the enterprise balance these expenditures are expressed in the cost of the equipment. Moreover, some enterprises acquire equipment and transport facilities through assets not included in capital investment. In industry the proportion of equipment in industrial fixed capital is 6.9 percent greater than in the capital investment structure.

The process of capital construction in our country is complex in nature. Therefore the construction and functioning of new pilot enterprises are closely tied to the construction and production operation of other, related enterprises and industries which supply them with the elements of fixed and working capital. In drafting national economic and branch plans of capital investment, total capital investment should be taken into consideration, namely, direct capital investment in the creation of fixed production and nonproduction capital in a pilot enterprise (in a branch), working capital as well as interrelated expenditures in associated branches and industries. However, calculations of this kind are complicated by the difficulty in determining interrelated expenditures which sometimes significantly exceed direct capital investment, as well as by the fact that realization of interrelated expenditures in the investment process often takes more time than the construction of the pilot enterprise.

In connection with this, when determining interrelated expenditures connected with the development of associated branches, it is advisable to utilize matrix, economic-mathematical models. For example, the volume of interrelated capital investment in working capital can be determined by means of constructing a matrix of the direct expenditures of materials which are used in the production of a given product and calculating the total expenditures of each type of them per unit. The volume of interrelated capital investment in fixed capital is specified as the effect of capital investment in associated enterprises on the relation of the production of these enterprises, which is necessary to the construction of our project, to the total production of the associated enterprise for its total service life.

We calculated the interrelated capital investment in the construction of the Volga Motor Vehicle Plant (VAZ) in the city of Togliatti. These calculations showed that for each ruble of direct capital investment in the construction of the plant there were 8-10 rubles of interrelated expenditures. Except for the capital investment in the development of production in associated branches of industry (metallurgical, chemical, glass, machine tool, and others), the latter included the volume of capital investment in the construction of 18 new, associated plants of the motor vehicle industry which complement the Volga Motor Vehicle Plant and the capital which was allotted by the Ministry of the Motor Vehicle Industry for the creation of a network of service stations for the "Zhiguli" automobile.

Unfortunately, the indicated models for determining interrelated expenditures are seldom used in drafting and substantiating the branch plan for capital investment. Usually these expenditures are estimated by rule of thumb which results in incorrect evaluation of the effectiveness of capital investment.

In conclusion, we direct our attention to the opinions found in the literature of economics that "the methodology of determining the volume of capital investment is the same for all branches of the national economy" and is justified apparently only by the balance sheet of the production capacities.[10] As we see it, it is impossible to agree with such an assertion. In branches with an extensive products list (light industry, food industry, machine building and so on), it is practically impossible to draw up the balances for the production capacities for every type of product and to correspondingly determine the volume of necessary capital investment for the planned period. In such branches, it is only on the basis of the fixed capital balance that it is possible, based on the production program, to establish the necessary volume to be placed in in operation and on the basis of changes in the level of the output-capital ratio of production to determine the total volume of capital investment.

FOOTNOTES

1. See: The USSR National Economy in 1977. M., 1978, pp 40 and 370.

2. See: The USSR National Economy in 1977. M., 1978, p 362.

3. See: Methodological Instructions for Developing State Plans for the Development of the National Economy of the USSR. M., 1974, pp 34-37.

4. Bor, M. and Yakunina, N. Planning the Effectiveness of National Production. Planovoye Khozyaystvo, 1977, No 1, p 105.

5. Merkin, R. Planning and Control of the Effectiveness of Capital Investment. Voprosy ekonomiki, 1977, No 9, p 37.

6. Materials of the 25th Congress of the CPSU. M., 1976, p 46.

7. See: Methodological Instructions for the Development of State Plans for the Development of the National Economy of the USSR. M., 1974.

8. See: The USSR National Economy in 1977, p 115.

9. See: Mitrofanov, A. I. The Branch Plan of Capital Investment. M., 1972, p 50.

10. See: Karpenko, A.P. National Economic and Social Planning in the USSR and the Trade Unions. M., 1974, p 186.

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METHODOLOGY OF CALCULATING PITAL INVESTMENT LAG

Moscow EKONOMICHESKIYE NAUKI in Russian No 11, Nov 79 pp 43-45

[Article by V. Titov, candidate of economic sciences: "Toward Improving the Methodology of Calculating Capital Investment Lag"]

[Text] When calculating the economic effectiveness of capital investment using the standard methodology and instructions for determining the economic effectiveness of capital investment in construction, it is recommended to take lag into consideration,[1] by which is meant the break in time between making the capital investment and achieving the final effect toward which the investment was directed. The necessity of taking lag into consideration in evaluating the total effectiveness of capital investment is indicated in the work of our scholars.[2]

The Scientific Council for the Economic Effectiveness of Capital Investment of the USSR Academy of Sciences has worked out methodological instructions for calculating the amount of lag.[3] In accordance with these instructions, lag consists of two parts: a) construction lag, namely, the time necessary for converting advanced capital investment into fixed capital and production capacities, and b) operational lag, namely, the time required to achieve the level of output stipulated by the plan for the fixed capital and production capacities placed in operation.

The length of construction lag depends on the length of construction time for the enterprises, buildings and installations and the distribution of the capital investment over the construction years; its determination is suggested according to the formula

$$Л_{стр} = \frac{a_1 n + a_2 (n-1) + \ldots + a_n}{100}, \qquad (1)$$

where $Л_{стр}$ is the construction lag in years; $a_1, a_2, \ldots, a_n$ is the proportion of capital investment as a percent of the estimated cost of the project's construction for the corresponding year (period of the year) of construction; and n is the total length of time for construction in years.

The amount of operational lag depends on the intensity (rates) of putting the enterprises and production capacities into operation, that is, on complete achievement of the planned technical and economic indicators (for profit, product output and its production cost).

In practice the amount of construction lag and operational lag for individual projects is identified with the amount of time for construction and for placing the production capacities in operation.[4]

However, the concepts of construction time and time for making a project operational are different in content and function from the concept of "lag" (construction and operational). The length of construction primarily characterizes the construction process itself and the methods of construction production. Construction lag characterizes the period of time for transforming the advanced capital investment (the full estimated cost of construction) into fixed capital.

The length of time for putting production capacities into operation is characterized by the following indicators: the duration norm (the period of time for placing in operation); the coefficient (percent) of the yearly planned capacity placed in operation (the coefficient of utilization of the capacities placed in operation); the output volume of the product during the period of time for placing in operation; and achievement of the planned levels of production cost, productivity of labor and profitability. Operational lag indicates in the course of which period the fixed capital and production capacities which have been placed in operation have not reached the output stipulated by the plan.

Construction Lag. In our view, the above formula 1 has a number of assumptions, namely, that construction begins at the beginning of the calendar year and that construction ends at the end of the calendar year; attention is not paid to the distribution of capital investment during the year.

Taking such assumptions into account, we propose that the amount of construction lag be determined according to the following formula:

$$Л_{отр} = \frac{a_1(n - 0{,}5n_1) + a_2[n - (n_1 + 0{,}5n_2)] + a_n 0{,}5n_n}{100}. \qquad (2)$$

The coefficient 0.5 is introduced into the given formula to express uniform distribution of capital investment during the course of the year.

Let us examine how the amount of construction lag varies when calculated according to formulas (1) and (2), taking into account the distribution of capital investment during the course of the year (the underlying data used in the table is from the example of the construction of swine breeding centers).

Distribution of Capital Investment by Years of Construction

Swine Breeding Center	Distribution of Capital Investment by Years (%)				Construction Lag (in years)	
	1	2	3	4	Using Formula (1)	Using Formula (2)
Vostochnyj	15	39	46	--	1.69	1.19
Kuznetsovskiy	66	28	6	--	2.1	1.6
Il'inogorskiy	65	35	--	--	1.65	1.15
Gubkinskiy	56	44	--	--	1.56	1.06
Pravdinskiy	1	20	25	54	1.68	1.18

It is evident from the calculations that the amount of construction lag, as determined by formula (2) suggested by us, was reduced by 0.5 years in comparison with the amount of lag as determined according to formula (1). It clearly follows that formula (2) gives a more accurate time period in which capital investment is diverted during the period of construction.

Operational Lag. At the present time there is no single approach to determining its amount. Brief methodological instructions propose determining operational lag according to a formula which is analogous to that used for determining construction lag:

$$\text{Л}_{\text{осв}} = \frac{M_1 t + M_2 (t-1) + \ldots + M_n t_n}{100}, \qquad (3)$$

where $M_1, M_2, \ldots, M_n$ is the proportion of the capacity placed in operation as a percent of the total as stipulated by the norms for the length of time for placing the capacity in operation (planned or actually accomplished) for 1, 2, ..., n, the period of the total length of time for placing in operation; and t is the total length of time for placing the capacity in operation in units accepted for measuring lag (months, quarters, years).

R.M. Merkin and G. V. Nikolayeva suggest determining operational lag through profit according to the formula[5]

$$\text{Л}_{\text{осв}} = t - \frac{\Sigma \text{П}_{\text{ф}t}}{\text{П}_{\text{пр}}}, \qquad (4)$$

where $\Sigma \text{П}_{\text{ф}t}$ is the total amount of actual profit for the period of placing the capacity in operation and $\text{Л}_{\text{пр}}$ is the yearly planned level of profit.

In analyzing formulas (3) and (4), it can be established that they reflect two different periods. Formula (3) expresses the average period of time in which the enterprise functioned at full capacity during the period of placing it in operation, and formula (4) expresses the average period of time in which the enterprise did not produce any profit during the period of placing it in operation.

We are interested in the period from the beginning of the capital investment until the effect is achieved. Formula (4) also expresses the period in which the fixed capital did not produce any effect, which must also be determined.

With the lack of a profit indicators, we propose determining operational lag according to the formula

$$Л_{\text{осв}} = t - \frac{M_1 t + M_2 (t-1) + \ldots + M_n t_n}{100}. \qquad (5)$$

We have examined construction lag and operational lag. Capital investment which is directed toward the creation of producer goods passes through three periods, namely, planning, construction and placing the production capacity in operation. Hence it is evident that total capital investment lag must consist of three lags, namely, planning, construction and operational.

Planning lag is the time necessary for converting advanced capital investment for planning and research work into fixed capital and production capacities. Expenditures for planning and research work are included in the net estimate for construction of the project (enterprise), therefore, in determining the amount of construction lag it is necessary to take them into consideration.

We propose that planning lag be determined according to the formula

$$Л_{\text{пр}} = \frac{P_1 T + P_2 (T-1) + \ldots + P_n [T - (n - n_n)]}{100}, \qquad (6)$$

where $Л_{\text{пр}}$ is the planning lag in years (the total length of planning and research work and construction in years), R_1, R_2, ..., R_n is the proportion of capital investment for planning and research work as a percent of the total estimated cost of construction for the corresponding year (period of the year) of planning and research work, n is the length of the planning and research work in years, and n_n is the last year (period of the year) of planning and research work in years.

The length of planning and research work and construction and the distribution of capital investment over the years of planning and research work influence the amount of planning lag. Until now planning lag has not been taken into account because capital investment which went for planning and research work was considered in determining construction lag.

In our view planning lag should be made separate as this will permit the correct determination of the amount of complete lag and more valid steps toward practical solutions. Complete lag is equal to the sum of the planning, construction and operational lags: $Л_{\text{пол}} = Л_{\text{пр}} + Л_{\text{стр}} + Л_{\text{осв}}$. The components of complete lag characterize the periods during which the same capital investment is drawn from the national economy for the length of time of planning and research, construction and implementation of operation.

FOOTNOTES

1. See: Standard Methodology for Determining the Economic Effectiveness of Capital Investment. M., 1969; and Instructions for Determining the Economic Effectiveness of Capital Investment in Construction. M. 1971.

2. Khachaturov, T.S. The Economic Effectiveness of Capital Investment. M., 1964, pp 61-62; Krasovskiy, V.P. Economic Problems of Capital Investment. M., 1967, pp 30-35; Plyshevskiy, B.P. The Effectiveness of National Production. M., 1976, p 176.

3. Brief Methodological Instructions for Determining the Amount of Lag in Capital Investment in Branches of Industry and the National Economy. Methods and Practices for Determining the Effectiveness of Capital Investment and New Equipment. M., 1971, No 18.

4. See: Vishnev, S.M. On Echeloning Capital Investment in Time. Planning and Economic-Mathematical Models. M., 1964.

5. See: Merkin, R. M. and Nikolayeva, G. V. The Planning and Norm Setting for the Economic Setting Up of New Enterprises, Moscow, 1971.

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TERM 'TERRITORIAL-PRODUCTION COMPLEX' CLARIFIED

Moscow OBSHCHESTVENNYYE NAUKI in Russian No 6, Nov-Dec 79 pp 68-79

[Article by Mark K. Bandman, candidate of geographic sciences, division head of the Institute for the Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences, and specialist in the problems of the development of Siberia's productive forces and the theory of territorial-production complexes]

[Text] Adoption of territorial-production complexes (TPK) as an independent subject of study and planning calls for the solution of many problems. First of all we must distinguish two types of spatial organization of the economy which are now referred to by the same term--territorial-production complex:

i. the TPK as a form of spatial organization of the material and technical base of any taxonomic unit of the country's economic or administrative-territorial division. These we will refer to as the conventional or traditional TPK;

ii. the TPK as a form of spatial organization of the productive forces in carrying out programs aimed at solving a particular type and rank of intersector regional production problems of national importance. We will refer to them as program-objective TPK's.

The two types of TPK have both traits in common and specific traits. They have traits in common because the same principle that the formative elements be integrated (proportional) applies to both and also because a common scientific base serves as their point of departure--the conclusions of the theory of the social and regional division of labor. While they form the foundation of the economy of economic regions or individual administrative divisional units, the complexes do not replace them, but remain independent economic entities. TPK's are open systems. The external relations reflect the place which each TPK has in the country's national economy and its specialization in the interregional division of labor.

Not every regional combination of facilities belonging to different sectors of the economy and of labor and natural resources serve as the basis for forming a TPK. Occupying the same space is not a sufficient condition for formation of a TPK. The facilities within the complexes do not merely coexist, but must by definition interact, and that gives rise to one of the most important characteristics of the TPK--the benefits of interaction. The interaction of the individual elements of the TPK is given direct expression in the complicated system of relations within the complex. They reflect the machinery whereby the TPK takes shape and operates--its maturity. But strengthening mutual internal relations is not an end in itself: the direction and scale of those interrelations are determined by efficiency from the standpoint of the entire national economy.

The criterion of national economic efficiency is the basis for determining how integrated or complete shall be the processing of a particular resource, by-product or source of raw materials within the complex. This determination gives consideration not only to direct costs, but also related costs, especially costs involved in attracting additional labor resources and capital costs of the social infrastructure. The task that is usually set concerning labor resources is to utilize them completely and efficiently, to stabilize the work force and to create the most favorable living conditions for the population. While the TPK is under construction, the scale of development of facilities in the nonproductive sphere is maintained at the centrally planned level and is not directly and immediately related to the complex' yield as an economic entity. Centrally distributed funds are the principal sources of financing for the program of social welfare measures.

The TPK is not set the task of the maximum possible satisfaction of needs exclusively from its own resources and production. On the contrary, it is assumed that the complex will be extensively involved in the regional division of labor. Therefore the complexion and scale of utilization of local resources and of the development of individual elements of the economy are determined not by the requirement of self-sufficiency, but by the given production operation's efficiency within the complex as compared to possible outside connections.

Not only do traditional and program-objective TPK's have features in common, they also have specific traits. The specific traits mainly result from the difference in function of these two types of complexes in the system of the national economy. Traditional and program-objective TPK's differ in the purpose for which they are created, the makeup of their elements and sources of higher efficiency, the way they are shaped in time and space, and their position in the system of the country's planning, management and administrative division. As we have already noted, traditional TPK's are an organizational form of the material and technical base of any taxonomic unit of the country's economic regionalization and administrative division. They are the basis for the planned economic development of a region; they unify facilities in the sphere of material production. The number of traditional TPK's corresponds to the number of units in the country's territorial division; they take shape everywhere as the productive forces develop within the boundaries of the various republics, oblasts (krays), economic regions and other administrative subdivisions. The facilities of the complexes are located in the developed portion of the region, they are a part of the economy of the oblast (kray, republic), and their operation is regulated by the regular sectoral and regional planning agencies. It seems to us, then, that there is no need to set up special agencies to manage complexes of this kind.

By the program-objective TPK's we mean a proportionally developing set of interrelated facilities of sectors of the economy (the sphere of material production and the nonproductive sphere) and of labor and natural resources which is built by plan and whose elements have stable interconnections, which is shaped and functions for the purpose of joint performance of national economic tasks of a certain type and level of importance, which is concentrated on a relatively limited and necessarily compact (not scattered) area possessing that mix and proportions of resources necessary to solving major national economic problems, which ensures efficiency (from the standpoint of the national economy) not only in utilization of the available resources, environmental protection and reproduction of natural resources, but also in the regional division of labor on the scale of the entire country, and which is served by a unified infrastructural system, whose composition and level of development are such as to meet the needs of all the economic sectors of the TPK and to ensure creation of the planned living conditions for the population.

It is possible to identify several basic specific traits of program-objective TPK's which distinguish them from traditional ones and allow us to answer the questions: What does a complex of this type itself produce, and why, in what manner, on what basis, by whom, where, when and in what number are TPK's created? These specific traits are as follows:

1. The state's need to perform a major national economic task which defines the principal goal of the program-objective TPK's creation, its specialization and the scale and time of its formation. The country will usually obtain therefrom some scarce resource, and the efficiency of its utilization will increase sharply. At the same time there will be a sudden spurt in development of the productive forces of the region in which the program for creating the complex is being carried out. We can mention several types of tasks whose performance requires that a program-objective TPK be formed in the USSR and particularly in Siberia. These are the intensive large-scale development of resources of regions which still have not been developed (the Middle Ob' and Bratsk-Ilimsk TPK's, etc.); intensive large-scale development of resources and utilization of other economic prerequisites for the development of underdeveloped regions, bringing about a radical alteration of the region's place in the country's national economy, in the level of development of its productive forces and in the structure of its economy (the Sayan, Mangyshlak and Pavlodar-Ekibastuz TPK's); intensive thrusts to develop new or existing production operations within regions

already developed so that the region will have an additional new specialized sector while retaining those already there (the TPK based on the KMA or Kursk magnetic anomaly); intensive modernization of the economy of highly developed regions so as to sharply raise the technical and organizational level of economic development while retaining the existing specialization (the Leningrad TPK, the future Kuzbass TPK, etc.).*

2. The program-objective TPK is a form of the spatial organization of the productive forces. Elements of three global systems--the economic, the social and the natural--interact within it. The principal components of complexes are facilities of the sphere of material production and the nonproductive sphere, the population and natural resources. The benefit of the TPK as a form of spatial organization of the productive forces comes about through better utilization of resources and improved location, regional concentration and interaction of all the components.

3. Program-objective TPK's are built as a consequence of a major one-time (though lengthy) action by the state, in the form of a thrust, and not on the basis of the ordinary smooth evolutionary development of a region's economy, however high the rate.

4. Program-objective TPK's are created in accordance with the program for solving a specific national economic problem. Proportionality in the makeup of the elements of the TPK is achieved in time and space on the basis of a specific system of preplanning and planning documents prepared in advance. The TPK's themselves are the subjects of special multiannual planning programs.

5. The specific nature of the tasks confronting program-objective TPK's necessitates the creation of a specific system of agencies for managing the process of their formation. The agencies for managing program-objective TPK's do not duplicate or replace existing administrative agencies of administrative subdivisions.

6. The location of complexes depends upon the region of concentration of the principal resource necessary to solving the specific problem. The program-objective TPK may accordingly encompass the entire territory of an administrative unit (the Mangyshlak TPK), a portion of it (the Bratsk-Ilimsk and Sayan TPK's) or contiguous sections of the relevant administrative subdivisions (the Middle Ob' TPK and the TPK based on the KMA).

7. The length of the program-objective TPK's life as an independent and specific form for organizing the productive forces corresponds to the time required to carry out the program for building the material and technical base to solve the specific problem which led to its formation. We can distinguish four phases in the creation of program-objective TPK's: (a) scientific and project-planning preparation; (b) infrastructural preparation;

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* There are frequent objections to including the latter type of TPK among program-objective TPK's. This question needs more thorough analysis.

(c) intensive formation; (d) commencement of permanent operation. After the principal facilities have moved on to the pattern of permanent operation, the program-objective TPK begins to gradually lose its specific traits. There might be an exception, but that would require the devising of a new major national economic program, one that would be sufficient to give a new impetus to develop the productive forces of the area of the TPK very rapidly in the form of a thrust.

8. The number of program-objective TPK's being created simultaneously in any stage of development of the country's productive forces is limited and is determined by the number of national economic problems of that particular type and rank that are being solved simultaneously.

Certain external and internal conditions are required for forming program-objective TPK's. The following are among the most important external conditions: the existence of the socioeconomic formation that makes it possible not only to identify the principal nationwide problems in development of the productive forces and not only to forecast the ways of solving them, but also to provide effective management of the process whereby the program for solving these problems is carried out; a high level of economic development of the state as a whole; and a high level of organization of the social and especially the regional division of labor.

But the presence of the external conditions for forming a TPK is not sufficient to carry out the problem posed with the maximum benefit. There are also indispensable internal conditions: concentration of economic activity, i.e., the existence of a certain critical mass (differing from case to case) which is sufficient to achieving a real benefit by virtue of comprehensive development, optimum location and effective management; organization--the appropriate functional interaction of the facilities, based on extensive utilization of the advantages of concentration and specialization, combination and cooperative arrangements within the TPK in terms of space and time; and management of the process of the TPK's preparation, formation and operation.

Thus it is not merely the possibility of creating the program-objective TPK, but also the derival of maximum efficiency from it that necessitates both a certain level of socioeconomic development of the country and of the region where it is to be created as well as a certain level of organization. An analysis of experience to date in creation of program-objective TPK's in the USSR gives reason to believe that shortcomings are encountered in the process of their creation that result in underutilization of the many advantages of the complexes as a form of spatial organization of the productive forces and as a form for carrying out the programs for solving major national economic problems. The following can be mentioned among the most typical shortcomings: failure to meet schedules, reduction or sharp fluctuations in the amounts of financing in the building of the individual basic facilities of the TPK; amendment of construction dates, alteration of the makeup of the facilities, and changes in their specialization on the basis of unilateral departmental decisions; failure to honor the significance of the individual elements of the sphere of material production, above all the agricultural base, resulting in their inadequate development; an isolated view and differing thoroughness of treatment of the prospects for formation of the individual elements of the TPK; an unthrifty attitude toward certain types and sources of limited resources (mainly resources which have multipurpose significance--land and water); the absence of conditions for faster infrastructural preparation of the area; the lack of comprehensiveness in building the infrastructure and a lag in the rates of its development; and failure to take into account the specific conditions of regions with a shortage of labor.

The fact that these shortcomings are widespread and recurrent indicates that the process of creation of program-objective TPK's is in need of improvement. We can identify two main directions for this effort: improvement of planning--development of a unified system of scientific preplan and project preparation and planning of the process of creation of complexes; improved organization--definition of the legal status of program-objective TPK's, creation of agencies to manage them, development of economic instruments that would guarantee fulfillment of obligations by the respective sectoral ministries in accordance with plans for creation of their facilities they have previously consented to, especially facilities significant to the entire complex.

In accordance with the decisions of the 24th and 25th CPSU congresses priority program-objective TPK's are recognized as the subjects of multiannual planning and are included in state plans for development of the national economy in the 9th and 10th 5-year periods.

Taking into account the growing importance of the regions of Siberia and the Far East in the country's economy and of the formation of major retional industrial complexes in those regions, the CPSU Central Committee and USSR Council of Ministers recommended in the decree entitled "On Improvement of Planning and Enhancement of the Impact of the Economic Mechanism on Raising Production Efficiency and Quality of Performance" (1979) that USSR Gosplan join the RSFSR Council of Ministers and interested USSR ministries and departments in examining the schemes for development and location of the productive forces of these regions and of the TPK's within them and also the principal indicators of economic and social development for each complex regardless of departmental subordination of production associations (enterprises) and organizations, assign targets for those indicators and monitor their fulfillment.

Improving the planning of TPK construction requires the development, first, of a definite system of preplan documents, and second, plans covering the creation of TPK's, including all facilities regardless of departmental subordination. Third, these plans must be an integral part of the multiannual plan of the relevant administrative unit and must be included in the plans of the union republics and the country on a separate line. As experience has shown, this enhances responsibility and makes it easier to monitor fulfillment of the plan.

The documents related to preplan justifications and planning of program-objective TPK's, which are regarded as elements of the overall system of preplan justifications and the country's multiannual planning, should, in our opinion, include the following:

a) the master scheme of the TPK;

b) the area layout scheme and design--organization of the area in terms of location and layout;

c) the project plan of the TPK--the engineering and economic calculation of all the principal facilities of the TPK and of the complex as a whole;

d) the program for creation of the TPK--the sum total of measures whose performance is indispensable to solving the problem that has been set;

e) the 5-year and annual plans for creation of the TPK--documents which do not duplicate plans for social and economic development of the respective regions.* It is assumed that both the 5-year plan and also the annual plan of the TPK are to include only those targets necessary to guaranteeing the planned formation of the TPK through fulfillment of that portion of the program which is scheduled for the relevant planning period.

The drafting of the master schemes of the complexes, in which the process of formation of the entire economy of the TPK and of its individual elements is examined by variants in time and space, should become the first step in improving preplan justifications and the planning of program-objective TPK's. In our opinion this is the principal preplan document for the TPK. The master scheme is on the one hand the basis for shaping all other preplan documents and the plans of the TPK, while on the other it is an obligatory initial document for prospective studies of all organizations whose interests are related to the given TPK. The tasks at present are to define the place of the program-objective TPK in the master scheme of location of the country's productive forces, to define the content of the master schemes of individual TPK's, and to link them to the master schemes of territorial units of higher rank.

The scheme is compiled on the basis of a comprehensive analysis of the initial conceptions of the given TPK's formation, of the purposes for which resources are used, of the production structure, of the construction time and pace of the complexes as a whole and of the individual elements of its economy, of the specific layout and location conditions, of resettlement systems and of forms of intracomplex spatial organization of the complex as an economic entity. The efficiency of future complexes, whose construction requires large capital investments and work lasting over several 5-year periods, depends in large part on correct solution of a set of problems like this.

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* See V. P. Gukov, M. K. Bandman, N. N. Kazanskiy and O. A. Kibal'chich, "Problems of Preplan Studies and Planning of the Formation of Regional Industrial Complexes," IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR. SERIYA OBSHCHESTVENNYKH NAUK, No 1, Issue 1, 1978.

There is a need to improve not only preplan studies and planning, but also the system for carrying out large regional programs. Reality itself advances the requirement that an agency be created to manage the process of creating a TPK. Its goals, tasks, functions and structure should change from phase to phase of this process. It seems to us that a management agency should be created to carry out the program for forming a TPK which "... will, first, prove to be a kind of 'superagency,' since it would have to exert pressure on a number of sectoral and administrative units. Second, that agency's powers and jurisdiction would not be all-inclusive; they would be related solely (italics mine--M. B.) to the content of the program. Third, the life of that agency would be defined as the period covered by the program."*

This administrative agency's principal function would be to reconcile discrepancies that arise between sectors and to see that departments fulfill their obligations with respect to their share of participation in the process of creating the TPK. In addition to administrative agencies at the center, it is equally important to have a management unit that is actually in the area where the program is being carried out. The principal organization responsible for the creation of program-objective TPK's should in our opinion be the relevant oblast (kray) Soviet of People's Deputies, while planning commissions of each TPK would be its executive agency. They should be responsible for the organization of all efforts involved in the preparation and actual formation of the TPK.

Four main directions can be proposed for the activity of the planning commissions of the TPK with respect to organizing the process of the complex' creation:

i. participation in organizing preplan studies, the drafting of preplan documents, and the shaping of plans and individual special-purpose comprehensive programs (environmental protection and the like);

ii. supervision of the formation of the entire complex of the infrastructure. These matters must be given an especially important place in the activity of the planning commissions of the TPK, which are to become the leading organization in defining the configuration of the infrastructure and in determining the location, time and rate of development of each of its elements;

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* G. Popov, "The Program-Objective Approach in Management," VOPROSY EKONOMIKI, No 2, 1977, pp 62-63.

iii. monitoring and coordinating the building of the facilities of the specialized industries and those production operations which round out the complex. The power to monitor construction progress (especially from the standpoint of time) and to see that departments fulfill their obligations with respect to financing construction projects, to participation in the building of intersector and inter complex facilities and in environmental protection, and to the creation of the stated living conditions for the population should become one of the principal functions in the activity of planning commissions of the TPK;

iv. creation of a file of initial information. Planning commissions should not merely pile up this information, but should above all act as initiators of systematic studies for the purpose of geographic, economic, sociological, demographic, technical and technological preparation of the area for truly complex and comprehensive formation of the complex as an economic entity.

In our opinion supervision of preplan studies and the formation of program-objective TPK's will be facilitated to the maximum if the boundaries of the TPK are brought into conformity with the administrative boundaries of oblasts (krays) and for the entire area of any one TPK to fall within the boundaries of one oblast (kray). The compact and unified economic task should be performed within the limits of a single administrative unit, should be governed by a single plan and should be subject to unified supervision.* The latter does not preclude establishment of close and permanent intercomplex (interoblast) economic relations. The requirement stated above does not extend to those cases when two contiguous areas contain very important partners which figure as equals in fulfilling a task of the national economy.

The overall scheme of Siberia's program-objective TPK's has now already been defined in basic outline. From the standpoint of analyzing the process of formation of TPK's and forecasting their development there is the greatest interest in typification of complexes with respect to five criteria: fulfillment of particular functions which are part of management of the process of the development of the productive forces; prerequisites of formation; natural and economic conditions of formation; stages of formation; and position in the regional division of labor of the country and of its own region.

Traditional complexes embrace the major portion and most highly developed area of the respective oblasts or krays. In certain cases (Kuzbass TPK) the facilities of the complex are located over practically the entire area of the oblast, and the boundaries of the complex coincide with those of the oblast in many sections. But in Siberia this is rather the exception than the rule. In oblasts that cover areas of tremendous size, including undeveloped areas, several local and peripheral regional industrial combinations can take shape. They are an integral part of the traditional complex of the oblast, but geographically they may be scattered or may have weak links to the center of the oblast, where the major portion of the traditional TPK always takes shape (the Lower Angara Valley in Krasnoyarskiy Kray). Thus it is necessary to distinguish two subtypes within the traditional TPK's: the complexes of the central and developed portion of the area of an oblast (kray) and local and peripheral regional industrial combinations.

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* The formation of Mangyshlakskaya Oblast is an example of what we believe to be the correct solution to this problem: an important problem arose when the TPK began to take shape and a corresponding administrative subdivision was created.

The Bratsk-Ilimsk, Middle Ob' and Sayan TPK's are examples of program-objective TPK's in Siberia. Within each of them facilities have been built or are being built which belong to several industries representing specialization in the national context, industries which are unified by a single common problem, and sometimes it is even difficult to determine which of the industries has the greatest importance to the national economy. This gives justification for describing these complexes as a subtype which we will call multiobjective (or multisector) program-objective TPK's.

In addition to the multiobjective TPK's in the undeveloped portion of Siberia, there are also single-purpose (one specialized industry is clearly dominant) program-objective TPK's. The Noril'sk complex is a vivid example of the single-purpose subtype of program-objective TPK's. It took shape in order to solve a very important, but single-purpose problem on the scale of the national economy. Combination of the objective and the specific conditions of the region where it is located (the Far North, the great distance from the country's developed portion and the difficult conditions for maintaining transportation connections) led to the formation of a single-purpose program-objective complex which is quite typical in its production and spatial structure.

The two types of complexes--traditional and program-objective--differ not only in their functions in the system of the national economy's organization, but also in the prerequisites and conditions for their formation. As a rule the basis for formation of all traditional complexes of Siberia are the oblast's (kray's) most advantageous economic-geographic location and favorable natural conditions, accumulated production potential and a concentration of population. The natural resources of the area have less importance (except for farmland and favorable agricultural conditions). Tyumenskaya and Tomskaya oblasts, where the timber industry has become one of the specialized industries, and Chitinskaya Oblast, which specializes in the mining of nonferrous metals, are an exception to some degree. Nor is the Tuva complex typical, since its formation is not yet complete, and the specialized industries are represented by single enterprises which are not interconnected.

The prerequisites and conditions for formation of Siberia's program-objective complexes are more diverse, but in all cases the basis for their creation is the national economy's need to develop one or all of the natural resources of the relevant regions. All Siberian program-objective TPK's are typified by the presence of sizable reserves of natural resources whose utilization is economically advantageous and the large scale of development of the proposed production operations. There are also other features they have in common. But at the same time there are also essential differences in the conditions under which the individual complexes are taking shape. Here are some: economic-geographic location; the makeup of resources, their national economic significance, and the level of preparedness and efficiency of utilization; natural conditions and above all conditions for human life and for the functioning of all elements of the national economy, for transport construction and industrial construction, and for comprehensive development of the area; level of development and structure of the present economy; the size, composition of labor resources and conditions for attracting and stabilizing the work force; level and conditions of development of the transportation network; level of preplan and project planning work and preparedness of the complex itself (power and construction facilities, transportation and other connections, the service sphere, the housing stock and other elements of the infrastructure) for the building of major new facilities.

The conditions enumerated above largely determine the different place occupied by the particular TPK in the regional division of labor, the order of priority, pace and scale of development, the production structure, the character of the location of production operations within the complex, relations among them, and the system of settlement.

The Siberian complexes include TPK's whose formation is based on the use of a single resource (petroleum in the case of the Middle Ob' complex and coal in the case of the Kuzbass complex), on a combination of resources (Bratsk-Ilimsk--hydropower and timber; the Lower Angara--hydropower, timber and ores of nonferrous metals), economic-geographic location in combination with the production potential and local natural resources already mentioned (hydropower and coal in the case of the Central Krasnoyarsk complex or salt in the case of the Irkutsk-Cheremkhovo). The Sayan complex occupies a special place among Siberia's TPK's. Its formation was based not so much on the presence of typical Siberian sources (hydropower, water, timber, and ores of various metals) as much as a combination of natural conditions favorable to human life, the level of development of agriculture and the area's development with respect to transportation.

The production structure of most of Siberia's traditional complexes has by and large already taken shape, and it is difficult to anticipate substantial changes in it. The specialized industries retain their importance over a lengthy period; there may only be a regrouping of them. The Tyumen' and Tomsk TPK's, where even now a new specialized industry--petrochemistry--has begun to take shape--are an exception. The phase of permanent functioning is inherent in all the traditional complexes, and they are distinguished only by the pace of economic development and the overall scale of production. In this respect the complexes of the Transbaykal region and Tuva are considerably behind the complexes of the oblasts in Western Siberia.

Siberia's program-objective complexes differ greatly with respect to the criterion of the phase of construction. Among them it is easy to identify TPK's which are in the phase of intensive (Middle Ob' and Northern Tyumen') and moderate (Sayan) formation; TPK's which have already taken shape and have entered the phase of permanent operation (Kuzbass and Irkutsk-Cheremkhovo); and TPK's which have completed the transitional stage to permanent operation (Bratsk-Ilimsk) or intensive formation (Central Krasnoyarsk). In addition to the ones we have mentioned, there are also areas which in the 11th Five-Year Plan (1981-1985) are to become subjects of scientific and project-planning preplan preparation for commencement of formation of new TPK's (Lower Angara and Upper Lena).

The difference in functions, prerequisites, conditions and phase of formation determines the different place which particular TPK's have in the regional division of labor and in solving the overall problems of the country's economic development and individual major national economic problems. All of this determines the content of preplan studies and the statement of the tasks in optimizing the formation of TPK's.

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RAYON PLANNING REQUIRES MORE DETAILED PREPARATION

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 11, Nov 79 pp 110-111

[Doctor of Economics V. Pavlenko book review: "Lower-Level Territorial Planning"]

[Text] Two works devoted to the problems of lower-level territorial planning have recently appeared. One of them illustrates problems of planning in an administrative rayon on the basis of the experience of Leningrad and Leningrad Oblast, while the other, as its authors point out, was prepared as a study guide for the planning of cities and rayons.

The first book--"Kompleksnoye planirovaniye ekonomicheskogo i sotsial'nogo razvitiya administrativnykh rayonov" [Comprehensive Planning of the Economic and Social Development of Administrative Rayons]*--was written by a collective of research assistants of the RSFSR Gosplan's Central Scientific Research Institute of Economics' North-West Branch. It embraces all aspects of lower-level rayon planning, from its methodological and legal principles through a system of indicators and procedural recommendations. The authors devote a great deal of attention to both the economic and social aspects of planning. Furthermore, the rayon plan is not examined in isolation but in a system, with reliance on the plans of enterprises and labor collectives on the one hand and in connection with the plans of the oblast and city on the other.

The book is written in intelligible and uncomplicated language and is free of affectedly complex, pseudoscientific terminology.

It was precisely Leningrad's "Svetlana" Association which, in 1966, was the first in the country to formulate a comprehensive plan of the economic and social development of the collective, and this was followed somewhat later by plans for Leningrad's administrative rayons. Thus Leningrad's planners have every reason to share their experience in the sphere of both the theory of social and economic planning and its practical embodiment.

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*Edited by V. I. Meleshchenko, A.S. Volkov and V. M. Khodachek, Lenizdat, 1978, pp 160.

The book consists of eight chapters. Chapter 1 provides a general description of the administrative rayon in the economic-political life of society and of the rayon plan in the planning system and examines the particular features of management and planning in the administrative rayons. The authors highlight the following sections in the comprehensive plan of a rayon's development: industry and agriculture; sectors of the production infrastructure; scientific organizations and higher and secondary specialized academic institutions; the services sphere; the solution of intersectorial questions; and the change in the nature of labor and the upsurge of the population's cultural and ideological-political level.

Chapter 2 is devoted to the organization of comprehensive planning in an administrative rayon under Leningrad and Leningrad Oblast conditions. Certain of the authors' proposition are in need of additional refinement, in our opinion. Thus page 12 speaks of an economic complex of rayon significance in the administrative rayons. The word "complex," which is employed excessively frequently in economic literature, is not very appropriate here, particularly if it is a question of urban rayons. In this case the zones of such "complexes" are highly arbitrary and have been eroded, [illegible] it were, and many functions are performed by adjacent rayons or cities as a whole. It is only possible to speak of complexes, in our view, given a certain stability of relations and the sufficient duration of their functioning. The system of plans formulated in the rayons has been presented insufficiently precisely. It should include the "main" plan--that of economic and social development--which the book treats separately, outside of this system (p 23).

Chapters 3-4 provide a meaningful exposition of questions of the planning of sectors of the production and nonproduction sphere.

Chapter 7 covers too wide a circle of problems. The amalgamation therein of such heterogenous questions as forecasts of the numbers and structure of the population, personnel training, environmental protection and the territorial organizations of the economy is dubious. It would seem expedient, in particular, to have prefaced the planning of the consumer service sphere with forecasts of the numbers of the population and to have linked questions of personnel training with the development of the corresponding sectors of the economy. Problems of environmental protection could have been examined in this chapter together with an important section on the territorial organization of the economy. However, the latter needs to be supplemented with reference indicators. Incidentally, the work does not deal with the question of reference indicators at all, yet they are obligatory for planning practice.

Chapter 8 is devoted to questions of social development and an upsurge in the cultural, ideological-political and professional level of the population, but it is in need of a more detailed exposition, in our opinion.

Procedures and indexes for the elaboration of rayon plans are appended to the book, which will increase even further the interest therein on the part of all workers engaged in the planning of cities and rayons.

In the second book under review--"Kompleksnoye planirovaniye ekonomicheskogo i sotsial'nogo razvitiya gorodov i rayonov" [The Comprehensive Planning of the Economic and Social Development of the Cities and Rayons]*--the majority of chapters is devoted to social questions, and only one of the economic aspect of planning. As the authors observe, they have made extensive use of methods material of scientific research organizations; unfortunately, the book makes reference only to official material from the quite enormous volume of other economic literature.

Correctly setting forth the principal tasks confronting the plans of cities and rayons, the authors fit them into a model outline composed of five sections: the comprehensive development of the sectors of material production and an increase in its efficiency; labor resources; an increase in the well-being of and an improvement in services for the population; development of the health service and education; and the communist education and development of the social activeness of the working people.

But subsequently the authors depart from this outline somewhat. Development of the services sphere is dealt with in a separate chapter. The heading of Chapter 7 speaks of the social development of the cities and rayons, whereas in the text itself it is a question of the social activeness of the working people, which, of course, is not the same thing.

Thus the structure of the comprehensive plans set forth in the book is different from the structure proposed by the Leningrad authors.

Much space is taken up in the book of V. N. Males and his coauthors by methodological questions: on the "essence" and objective prerequisites of comprehensive planning (Chapter 1) and its subject and objects (Chapter 2). But together with correct, precise definitions of comprehensive planning (p 26) and its principal tasks (pp 19-20) we also encounter in the work a number of propositions of a very nebulous or debatable nature. Thus the authors speak of the "requirement" for comprehensive planning arising from the need (?) to comprehensively utilize the extensive possibilities of the developed socialist economy in satisfying the requirements of all members of society (p 8). They see as the "essence" of comprehensive planning the fact that it is an element of the system of control of the process of an improvement in the socialist way of life (p 18). While reflecting the final goals and tasks of Soviet society these definitions are, however, of too general a nature and cannot, it stands to reason, answer the question that has been posed concerning the objective prerequisites of the comprehensive planning of a city or rayon. The assertion also that the plans in question accomplish the wide-ranging task of the regulation (?) of the conditions of the harmonious development of all workers (p 17) is of a similar nature. Furthermore, the adduced propositions are not linked with the principal tasks of the comprehensive plans expounded by the authors.

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*V. N. Males, Ye. G. Panchenko and V. I. Senchenko, Moscow, Mysl', 1978, pp 224.

The work provides a highly blurred definition of the subject of planning. In the authors' opinion, it is "an entire elaborate complex of relations: the economic relations evolving in the sphere of production, distribution and exchange and the consumption of the necessities of life; and ideological and social relations in the narrow sense (?) and in the political, moral, legal, spiritual-cognitive, social-psychological (?) and other spheres of people's vital activity" (p 26). The interpretation of comprehensive planning as a branch of "the science of socialist planning" and as a concrete form of planning itself (ibid.) remains undisclosed and unclear.

Chapters 1 and 2 are in need of considerable revision, in our view. Only those basic theoretical propositions which are really essential in the study of such a course of instruction should be selected, and they should be strictly polished in a terminological respect.

A more differentiated approach to the planning of the development of cities and rural rayons is also desirable. It is also advisable to dwell on the specific tasks confronting planning of cities of different sizes. Although the book's methodological section makes reference to these distinctions, they are not revealed and examined in the subsequent text.

Space should be assigned in the calculations for the plans for a demonstration (in dynamic form) of their role and relative significance in the economy of the oblast, kray and republic. The plan's concrete indicators deserve more detailed, attention examination. These remarks apply to both books equally.

The planning authorities are currently performing a great deal of work on preparing legislative instruments and methods material in the light of the recent CPSU Central Committee and USSR Council of Ministers decree on an improvement in planning. New editions of manuals and study guides on lower-level planning as the basic form of management of the economic and social development of the cities and rayons should be prepared in consideration of this.

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